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ABSTRACT

This study, replicating an earlier experimental study, examined language attitudes in New Mexican Hispanic bilinguals aged 10-20, drawing on a socio-educational model of attitude formation and focusing on the relationship between language attitudes and five other variables: age; gender; youth culture; language ability; and language and cultural background. Data were gathered using a questionnaire, administered in both English and Spanish to 217 students in 3 schools (one elementary, one middle, and one high school). Results suggest that the community is limiting its use of Spanish despite generally positive attitudes toward both Spanish and bilingualism. The strongest relationships found in the data were between proficiency, place of origin, and language background and attitudes. Suggestions are offered for improving the reliability of two scales in the questionnaire, those concerning the youth culture and attitudes toward use value and status of Spanish. Both English and Spanish versions of the questionnaire are appended. Contains 19 references. (MSE)

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Patterns of Language Attitudes and Language Use: A study of New Mexican Adolescents

Stephanie Maietta
Department of Linguistics
University of Pittsburgh

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PATTERNS OF LANGUAGE ATTITUDES AND LANGUAGE USE: A STUDY OF NEW MEXICAN ADOLESCENTS

Stephanie Maietta

Understanding attitudes towards the mother-tongue of minority language groups is an integral part of understanding language preservation and/or maintenance phenomena. In spite of attitudes being a key factor in language and educational policy planning, much of the little actual research that has been done in this field has been haphazard and atheoretical. Although the relationships between language attitudes and other variables (e.g., second language learning or proficiency) have been treated in a number of previous studies (e.g., Gardner and Lambert 1972; Wallace, Giles and Picard 1975; and Gardner 1985), there has been little such work done in linguistic minority communities. Of the work that has been done, much has been simplistic bivariate analysis, often uninformed by current social psychological theories and techniques of multivariate analysis. More informed research is needed in order to understand the role language attitudes play in speakers' decision-making processes which ultimately lead to language maintenance or loss in linguistic minority communities.

This paper will attempt to help correct this lack by presenting the results of the replication of an experimental research study originally developed and conducted by Colin Baker (1992). This research provides a multivariate analysis of language attitudes in New Mexican Hispanic bilinguals 10 to 20 years of age, building strongly on Gardner's socio-educational model of attitude formation (1985) and Baker's proposed theoretical research model (1992). By administering a modified version of Baker's six-part questionnaire[1], this work analyses the relationships between language attitudes (attitudes toward English, Spanish and bilingualism) and five other variables--age, gender, youth culture, language ability, and language and cultural background.

This replication of Baker's study tests and refines the aforementioned model of language attitude theory and research, as built and tested in the Welsh context by Baker and

[1]I included the modification which Baker suggested as well as alterations which made the questionnaire relevant to my subjects, including socioeconomic indicators.

Gardner, by applying the model in this different cultural and linguistic context. These data suggest that this community is limiting its use of Spanish despite generally positive attitudes toward both Spanish and bilingualism. Positive attitudes, in and of themselves, are thereby not enough to promote Spanish maintenance in this population. Furthermore, the strongest relationships found in this data were between proficiency, place of origin and language background and attitudes. In fact, demographic and environmental factors appear to be the most influential in attitude formation. Finally, suggestions are made to increase the reliability of both the questionnaire's Youth Culture and Attitudes Toward the Use Value and Status of Spanish scales.

Acknowledgments.

After reading the final draft of this paper for the umpteenth time, I realized that this work has been influenced by a myriad of people, places and events. The shadows of those I have tried to imitate in this work and even those I have vowed to condemn are all lurking in these pages.

Without the guidance of my readers this study would have never become more than an interesting idea. Christina Bratt Paulston's unwavering support, tender ear and iron rule both forced and enabled me to surpass my own expectations of what I could do. Colin Baker's patient direction, suggestions and gracious nature made it possible for me to truly understand the immensity of what he accomplished in the original study and what he has left as a legacy for the rest of us. Dan Everett's understanding and willingness to accommodate my needs permitted me to finish this work.

Elaine Rubenstein was my torch through the dark labyrinth of statistical programs and analyses: Without her gentle explanations, suggestions and willingness to do, re-do, then scrap and do again just about every level of these analyses, my data would have never taken shape from those dreaded scantron sheets.

I also owe my heartfelt thanks to the people in Roswell who participated in and supported my efforts: the students who spoke so freely with me and labored through the long questionnaire; the teachers who let me into their classrooms and shared their concerns and hopes with me; the administrators who led me through their offices, schools and district; and, finally, Kim and Greg Sherman who took me into their home at a most inconvenient moment and without whose help I would never have found my population!

Last, but most certainly not least, to the colleagues who exchanged ideas with me as well as the friends and family members who supported, reassured and generally put up with me through the research, writing and proofing
I owe my thanks, my success and my love.

Stephanie Maietta, July 25, 1996
Pittsburgh, Pennsylvania

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"...nos falta refinar la metodología, ...(necesitamos) ubicar el estudio del idioma en su marco socio-económico. Puede parecernos demasiado obvio e innecesario el insistir en que los idiomas son una creación humana que reflejan las culturas de los grupos" (Ana Celia Zentella 1990: 153).

1. Introduction.

This work is a replication of a study of bilingual adolescents originally conducted by Colin Baker in Wales (see Baker 1992). Baker's study investigated the role of individual differences versus environmental variables in the formation of language attitudes and patterns of maintenance of Welsh. In the present investigation Hispanic students in New Mexico were surveyed, using a modified version of Baker's questionnaire, to determine if, in this different linguistic and cultural context, (1) there would be any differences in the results, and (2) if based on the results improvements of the instrument could be suggested.

This research obtained its results via a modified version of Baker's questionnaire (see appendix A), which gathered information about demographics, language proficiency, youth culture, language background and use, attitudes toward the use, value and status of Spanish, attitudes toward the use, value and status of English, general attitudes toward English, and finally attitudes toward bilingualism. Of these variables, Baker's study found that his subjects' choice of extra-curricular activities, i.e. youth culture, was the most important factor in determining language attitudes. "(...) Being immersed in 'Welsh and Literary culture' was the strongest influence on language attitudes, ahead of the students' actual language background and far ahead of the students' ability in the Welsh language which, with the type of school attended, was the least influential factor" (Lewis 1994: 26). From his data, Baker concludes that the availability of cultural (i.e. Welsh) activities and the adolescents' subsequent participation in such activities is an essential part in the maintenance of minority languages threatened with extinction. In addition, Baker also

proposes that attitudes towards bilingualism is a unique construct which should not be lumped together with attitudes towards individual languages.

In order to analyze the results of the questionnaires in this different population, I conducted an initial factor analysis on each section of the questionnaire (see Appendix A). This yielded a total of twelve factors: (1) Youth Culture 1: Social; (2) Youth Culture 2: Literary/Sports; (3) Youth Culture 3: Home/Family; (4) Language Background 1: Peer/Activity; (5) Language Background 2: Church/Elders; (6) Use Value & Status of Spanish 1: Instrumental; (7) Use Value & Status of Spanish 2: Integrative; (8) Use Value & Status of English 1: Instrumental; (9) Use Value & Status of English 2: Integrative; (10) General Attitudes to Spanish 1: Positive Wording; (11) General Attitudes to Spanish 2: Negative Wording; and (12) Attitudes Towards Bilingualism. The factor analyses were followed by both T-tests and ANOVA to test for any correlations between all of the variables and/or factors. A final attempt at extrapolating the patterns from this data was also made via a cluster analysis. In contrast to what Baker found, the main findings of the present work are that environmental variables such as place of birth and parental language are more strongly correlated with language use than any attitudinal or youth culture factors. Furthermore, the maintenance of attitudes to bilingualism as a separate construct is not supported. Some suggestions of how to fine-tune Baker's questionnaire are also made based on these findings.

Finally, this work underscores the need for attitudinal research to consider second language situations as different from the situation of minority languages because of their unique links with identity. It also attempts to emphasize the importance of understanding the attitudes of a community in order to better represent the desires and vision of each particular community. Here, as in Baker's original study, an attempt is made to open "a discussion of how attitudes to language influence such wide society choices as which languages are taught in schools, how

two languages can be maintained in a country and how cultures maintain their identity" (Lewis 1994: 25-6). In this way sociolinguists can better connect the reality of the community with more abstracted societal level phenomenon via attitudinal research and a deeper understanding of the beliefs of the individual subjects.

2. Motivation of Research.

Bringing the reality of a community into the work of the sociolinguist is a necessary, though not an easy task. Applied sociolinguists have been repeatedly called upon to advise policy makers as to the best educational and political decisions regarding language in multilingual settings. Such linguists often come to these advisory positions with their own ideas and agendas of what is best for the community or nation to which these policies are applied without the knowledge of what a community wants for itself. In the early 1970's, when discussing the language situation in Peru, Christina Bratt Paulston lamented:

> ...this is where the socio-linguist faces his moral dilemma. He will perceive the ideal solution to a language problem, a solution which is certainly influenced by his liberal and moral values, and there will be very little possibility of such a solution ever being implemented by those directly faced with results--the Ministerio de Educación, the teachers, the parents and the children. What then should he do? (1971: 179).

Not much has changed since Paulston posed this question. Her call for linguists to examine their own biases, especially the ideal of language maintenance at all costs, still remains valid today, some 25 years later.

As Paulston indicates, this ideal of language and/or cultural maintenance is not always viewed as desirable or positive by the minority or substratum group: "They (Peruvian Indians) are not any more likely than black parents in the United States to appreciate institutional enforcement of those language behaviors which mark them as belonging to a sub-ordinate socio-economic group" (Paulston 1971: 178). This observation highlights that language policies do not simply promote the best way to

learn a second language or the best way to maintain a minority or indigenous language. Language policies impact on the social, cultural and economic futures of individuals and communities.

Accordingly Paulston remarks, "We are suddenly faced with an unusual aspect in linguistic description, that of morality, a good indication that the language problems in Peru and in the United States are ultimately not linguistic problems but problems of a changing culture and its values" (1971: 177). If we as linguists involve ourselves in social planning and change, we also face the obligation which accompanies social scientists of all types--an obligation to do right by the communities from which we build our careers. It is not enough to recommend the most rapid and/or cost effective way to teach immigrant children English, for example. We must also consider the desires and needs of the community within which these children live.

Much along this same vein, Paulston promotes the role of the policy-advising sociolinguist as an advocate for minority communities:

> I would like to see the task of the applied socio-linguist be one of first recognizing the socio-economic constraints on the national educational system, then realizing where social change is taking place, so that such change may be supported, justified, and implemented by an adequate understanding of linguistic facts where matters of language problems intersect with those of social class stratification, economics, racial prejudice, etc. (1971: 180).

I would take Paulston's proposition one step further. I suggest that, as linguistic consultants in social policy planning, we have an obligation to attempt to change structural inequality where we find it. Colin Baker proposes the following role for the linguist as an advocate in the context of educational policy advising:

> ...assessment and diagnostic activity need to be **Advocacy rather than Legitimization oriented** [sic]. Advocacy means the assessor or diagnostician advocating for the child, by critically inspecting the social and educational context in which the child operates. This may involve comments about the power and status relationships between the dominant and dominated groups, at national, community, school and classroom level (1993: 242).

Without this type of structural change, real social and/or racial equality and tolerance cannot be achieved, but this is my own bias.

Nearly 30 years after the flurry of civil rights marches, protests and legislation in the United States, here in my own city of Pittsburgh (as well as in my childhood home in Arizona), the geographic and economic divisions between the races is still a flagrant reality. Obviously we are limited in our ability to effect change. Nonetheless, if we champion the suppressed minorities, as did Labov in his efforts to promote Black Vernacular English as a valid dialect of English (see Labov 1969), we are then in part repaying our debt to the communities upon which we build our livelihoods.

In this way, we must familiarize ourselves intimately with the vision of the community with which we work. Only this knowledge will enable us to promote a course of action which is best, not only from an academic standpoint, but one which the community feels is most appropriate for their own future as well. In order to accomplish this task, it is imperative that linguists and educators know what communities hold to be valuable and true. A patriarchal, top-down decision-making process can only lead to more alienation and subjugation of minority communities. The communities, themselves, need to be involved in the decision-making processes and the sociolinguist can help to facilitate such involvement.

One tool which can help the sociolinguist become familiar with the views and desires of a community is attitude research. Such research, coupled with language use data, can provide a glimpse at what members of various ages in a multilingual community feel is most important (e.g. what language should be the medium of instruction in the schools, what language should street signs be in, what language makes you a successful (social and/or economic) member of the community, etc.). It has been found that, "attitudes may be better predictors of future behaviour than observation of current behaviour. Attitudes tend to be less affected by situation factors, and can be measured more reliably" (Baker 1992: 16). Furthermore, new

developments in research methodology and analysis may allow for a more direct link between attitudes and behavior. In this way, attitude research might not only be a useful tool for understanding a community's values, but also an indicator of present and future linguistic behaviors.

In the introduction to their article *The study of language attitudes*, Cooper and Fishman provide a brief summation of what linguists have found in past attitudinal research:

> ...for example, language attitude appears as a catalyst for a sound change, a defining characteristic of a speech community, a predictor of second-language achievement, a reflection of interethnic attitudes, a determinant of interlingual intelligibility, and a determinant of teachers' perceptions of their pupils' ability (1974: 5).

As indicated above, attitudes have been shown to be a factor in many social and linguistic spheres. Nevertheless the bulk of research on language attitudes to date has primarily examined the impact of attitudes on second language (L2) acquisition. For example, a study by Gardner, Lalonde & MacPherson (1985) found that favorable student attitudes towards an L2 was related to less attrition of proficiency in that L2 (cited in Baker 1992: 36).

Bernard Spolsky in his book *Conditions for Second Language Learning* (1989), discusses the possible reasons for a relationship between attitudes and language acquisition or retention:

> The social and individual values which underlie language choice also determine the value an individual assigns to the learning of a specific language. These values translate into attitudes, and the attitudes lead to the development of the degree and kind of motivation that has such an important influence on the amount of effort a learner is prepared to make in learning a second language (1989: 164).

It appears that attitudes, among other variables, can also influence speakers' decisions to continue to speak a first language (L1) or not. Baker posits:

> Where languages are in danger of decline or extinction, or when cultures and languages are overtly being conserved by, for example, educational policies, changing attitudes is often prominently on the agenda. It is

> usually accepted that whatever the language policy, planning or provision, the favourability or unfavourability of attitudes in the population fundamentally affects the success or otherwise of language preservation. Thus changing attitudes is often a major part of the formal or hidden agenda of language planning (1992: 5).

Language attitudes may contribute to the speakers' decision-making processes which ultimately lead to language maintenance or loss in linguistic minority communities. In this way, understanding attitudes towards the mother-tongue of minority language groups becomes an integral part of understanding language preservation and/or maintenance phenomena.

Spolsky (1989) goes on to describe the findings of Gardner which suggest that there are two types of attitudes which may motivate action: integrative and instrumental (originally referred to by Gardner as motivations). Integrative attitudes are those which motivate a language learner because (s)he wants to become a member of a linguistic group. Instrumental attitudes, on the other hand, provide economic or status motivations for learning a language. However, Gardner and Lambert's own research on second language learning (1959) found instrumental attitudes to be less influential than integrative attitudes in motivating acquisition and enhancing retention of a second language. Although the existence of these two types of attitudes has also been supported by other research (see Baker 1992, Spolsky 1989), the role they might play in minority language maintenance is not yet clear.

One study which tested the integrative/instrumental distinction in the context of L1 maintenance in French-American students was conducted by Gardner and Lambert (1972). They found that, while positive integrative motivations seemed to promote L2 success in former studies, instrumental orientation towards French (the L1) coupled with strong parental support, seemed to promote achievement in both French (the L1) *and* English (the L2) in this context. In other words, the students with strong instrumental orientation to the L1 had better language skills in both the L1 and the L2 (Gardner and Lambert 1972). These findings were also supported by research of

Jewish students studying Hebrew conducted by Anisfeld and Lambert (1961) (cited in Gardner and Lambert 1972: 79).

Another noteworthy investigation which has been conducted with minority language students correlated bilingual education and language attitudes. Lambert, Giles & Picard found that French American 10 year-olds in a bilingual education program had more positive attitudes to local French whereas their counterparts, in mainstream English education, had negative attitudes to local French (141-2). According to their report, the children had been randomly assigned to the bilingual education program. As far as I could find in my literature search, these findings have not been replicated in other populations to date.

One of the few scholars who has tried to do research on questions about the possible structure and role of attitude in L1 maintenance has been Baker. Baker's work is ground-breaking in that it does not just look at one single variable as causing or forming language attitudes, as have past sociolinguistic studies in this area, but instead attempts to extrapolate from the data how a series of complex interactions of variables together contribute to attitude formation and/or change. Furthermore Baker innovatively applies current social psychological theory of attitudinal research to the study of language attitudes both in the collection and analysis stages of his research. Baker's research model, which builds on Gardner's socio-educational model, posited that:

> (i) Gender, age, language background and type of school directly affect attitude to a language as does youth culture.
> (ii) Gender, age, language background and type of school also indirectly affect language attitudes through youth culture. That is, these variables affect choice of youth culture, which in turn affects attitudes to a language.
> (iii) Ability and attitude to a language form a two way 'cause-effect' process and both are outputs in the model (Baker 1992: 50-1)

(The model which Baker proposed and tested is represented by Figure 2.1 below.) In this way, Baker's study, through the administration of a lengthy questionnaire, examined the composition of and interactions between seven variables within the

context of Welsh-English bilingual adolescents in Wales--(1) gender, (2) age, (3) language background, (4) type of school, (5) youth culture, (6) language attitudes (towards both Welsh and bilingualism) and (7) language ability. The gender, age, language ability and type of school variables are observable variables and were therefore not submitted to any statistical analysis for their interpretation. However the youth culture, language background and language attitudes sections of the questionnaire were tested for internal consistency as well as reliability before being used in any correlational analyses.

Figure 2.1 Baker's proposed attitude formation model (Baker 1992: 50)

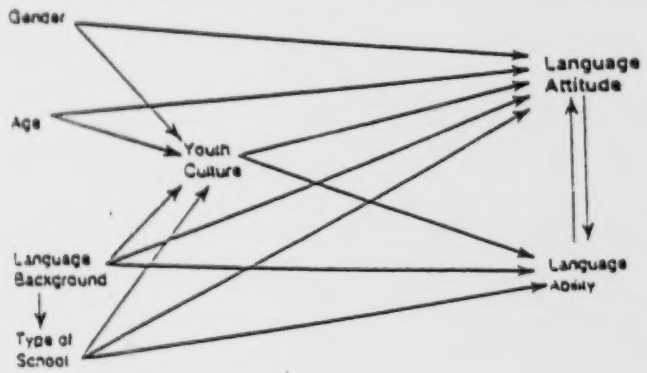

Figure 3.3

Baker's section on language background asked subjects about their own use of Welsh and English as well as which language others used when addressing them. A factor analysis was performed on this section yielding only one factor. In this way, Baker's proposed unitary treatment of language background was supported.

Youth Culture was measured in section one of the questionnaire which asked the subjects about the frequency of their participation in variety of activities, e.g. play sport, shopping, etc. This section was also tested for uni- or multidimensionality via a factor analysis. Indeed this analysis showed that the Youth Culture construct was really made up of two dimensions: (1) activities involving Welsh and literary culture and (2) activities relating to popular culture.

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Baker's questionnaire measured attitudes toward Welsh via two different sections: one measuring general attitudes toward Welsh and the other measuring attitudes toward the use, value and status of Welsh. Baker found that in the General Attitudes towards Welsh section, "except for the 'study Science in Welsh' item, the overall attitudes of the sample were favourable" (1992: 60). After conducting a factor analysis on this section, General Attitudes towards Welsh was maintained as one unitary construct. The Use, Value and Status section also indicated that Baker's subjects generally supported Welsh, yet "two items, 'play sport' and 'watch TV/videos' were both regarded as 'unimportant' for the Welsh language. These are two major domains of youth culture where the Welsh language appears to be given little or no value by the respondents" (Baker 1992: 61). His subjects also had "a bias towards instrumental attitudes being more valued" (Baker 1992: 61). Baker again conducted a factor analysis in order to determine what the underlying constructs were in his Use, Value and Status of Welsh scales. Two factors emerged which support the integrational-instrumental distinction originally proposed by Gardner and Lambert. In this way Baker's work illustrates that, among this population, there is an instrumental-integrational distinction and that, in general, their attitudes towards Welsh are positive.

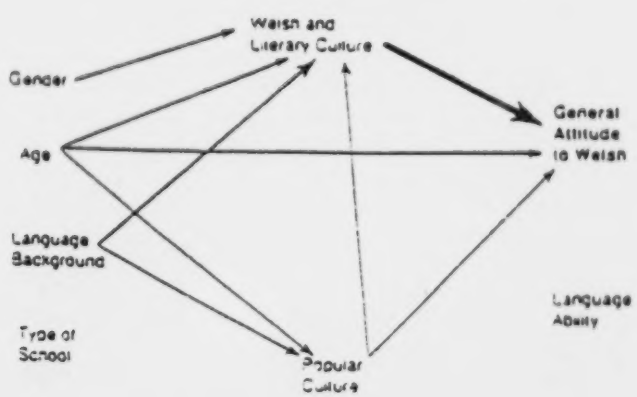
Baker then went further than had former researchers by looking at attitudes to bilingualism in a separate section of his questionnaire. Through factor analysis Baker found that attitudes to bilingualism also consist of only one underlying construct. In line with the other attitude sections, this section found that, "the dominant attitude is one of favourability towards bilingualism" (Baker 1992: 82).

After ascertaining the variables present in his data, Baker conducted a correlational analysis of all the variables (both the observable--gender, age, type of school--and those which he extracted via factor analysis--Welsh and Literary Culture, Popular Culture, Language Background, General Attitudes toward Welsh, Integrational Attitudes toward Welsh, Instrumental Attitudes toward Welsh, and Attitudes toward

Bilingualism). He found that (1) gender, age, language background and youth culture all have significant correlations with language attitudes; and (2) a significant relationship exists between gender, age, language background and youth culture. (It must be noted that the reliability coefficients of the two youth culture factors were below the acceptable level and therefore call into question the validity of the construct and/or its measurement.) Baker's research did not find any relationship between language ability[1] and attitudes, as he had predicted. Nonetheless, Baker did find that there is a "critical change period" in children's attitudes. Most notably is the statistically significant shift in attitudes ($p<0.001$) between his 13 and the 14 year-old subjects (Baker 1992: 61-3).

Finally, Baker used LISREL causal modeling technique in order to predict the order of occurrence in time of the related variables. Based on this analysis, Baker refined the model originally proposed (see Figure 2.1 above) and presented three new models of attitude formation represented schematically in figures 2.2 - 2.5 below.

Figure 2.2. Baker's Model 1: General Attitude to Welsh (Baker 1992: 70)



Note: The model shows the paths with coefficients over 0.25. The thickness of the arrows represents the strength of association. Full details in Appendix 2.

Figure 3.9 Summary of Effects on General Attitude to Welsh

[1] What Baker has termed language ability is really self-report language proficiency.

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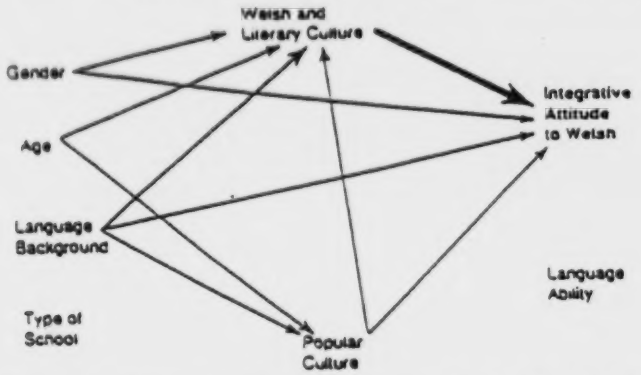
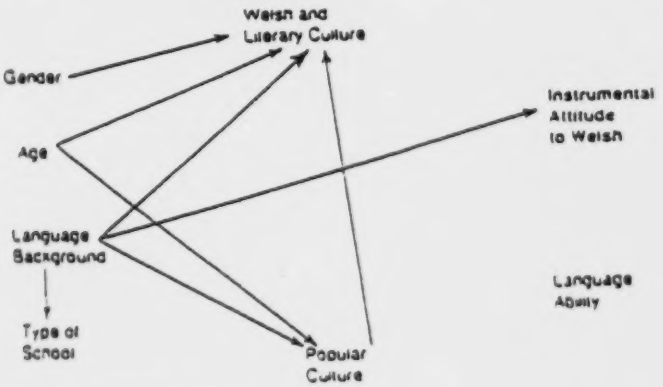
Figure 2.3. Baker's Model 2: Integrative Attitude to Welsh (Baker 1992: 71)



Note: The model shows the paths with coefficients over 0.25. The thickness of the arrows represents the strength of association.

Figure 3.10 Summary of Effects on Integrative Attitude to Welsh

Figure 2.4. Baker's Model 3: Instrumental Attitude to Welsh (Baker 1992: 72)



Paths represented are all over 0.20.

Figure 3.11 Summary of Effects on Instrumental Attitude to Welsh

Figure 2.5. Baker's Model 4: Attitude to Bilingualism (Baker 1992: 95)

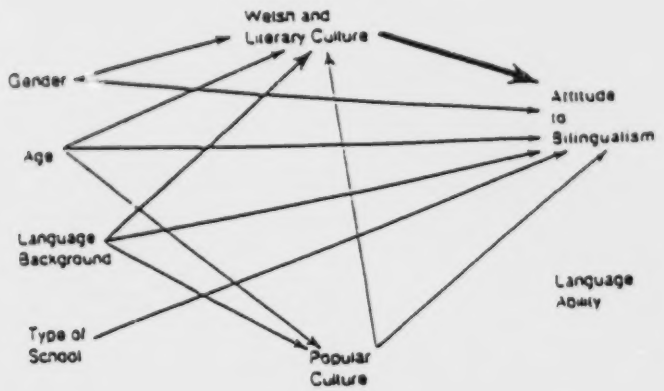


Figure 4.3

Note: The model shows the paths with coefficients over 0.25. The thickness of the arrows represent the strength of the association.

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3. Current Investigation.

The current research is a replication of the aforementioned study by Baker which was published in his book *Attitudes and Language* (1992). The present work not only tests his findings and proposed interpretations in another cultural and linguistic context, but also suggests ways to further refine his research instrument. In addition, this work further supports the validity of applying the integrational-instrumental attitude model, developed in L2 learning contexts, to research investigating L1 maintenance in bilingual communities.

Besides the change in geographic and sociolinguistic context of the study, another difference between this and Baker's study is that I measured six of Baker's original seven variables--(1) gender, (2) age, (3) language background, (4) youth culture, (5) language attitudes (towards English, Spanish and bilingualism) and (6) language ability. My study does not include 'type of school' as a variable since I did not have any difference in type as did Baker[2]. However, since my population included a large number of Spanish-speaking immigrants, I added items which asked for the subjects' as well as their parents' places of birth. All variables were measured by the administration of a modified version of Baker's 6-part questionnaire[3] which used both 4- and 5-point Likert scales (see Appendix A). In addition to Baker's modified questionnaire, the answer sheets asked the respondents their grade, sex and date of birth. I also included seven more open-ended questions in order to obtain some demographic information about the respondents, including place of birth (see Appendix B).

An additional difference between Baker's study and mine is that I also conducted a series of informal follow-up interviews of a sample of the students, teachers and administrators as well as classroom observations in order to acquire

[2]In the Welsh context there are three types of schools: designated bilingual school, "natural" Welsh school and English-medium school.
[3]Modifications included additional items provided by Baker, as well as my own alterations to make the instrument relevant to my subjects.

information about medium of instruction, type of program, etc. which is not measured by the questionnaire. Unfortunately, the selection of the individuals was not at all random: due to practical limitations I had to rely on the students to volunteer themselves for discussion after the administration of the questionnaires. In addition, the amount and type of observation and interview data I was able to obtain was hindered due to teacher absences, standardized testing and general school assemblies the week I was in the field.

3.1. Location and Population.

The location of this study was Roswell, NM. Roswell is located in Southwestern NM, about 200 miles from any major city (i.e., Albuquerque or El Paso). It is also virtually surrounded by military bases which bring a substantial amount of money into the local economy. There were approximately 44,600 residents in the city in 1990 (compare this to 57,800 for the whole of Chaves county within which Roswell is situated). The population is growing mostly due to an increase in retirees settling in the city and also to a recent influx of agricultural development in the county. In fact, when the winds started during monsoon season, a newer resident of the city mentioned the foul smell from the cattle yards located just outside of the city limits to a life-time resident. The life-time resident replied that this was indeed the true smell of money! Nevertheless the area is still depressed with the largest and highest paying employer in the city being the school district with 1,127 employees.

New Mexico is one of the few states in the nation which has native descendants of the original Spanish-speaking Mexicans who have most notably maintained Spanish. These Mexican descendants were the elite in the area prior to statehood. In addition, New Mexico still experiences a continuous influx of new immigration from Mexico. Thus there are constantly monolingual Spanish speakers with whom bilinguals can speak. In this way the language situation is unique: it is not solely an

isolated minority community, nor is it entirely a relocated immigrant population (for an historical perspective of Spanish language and culture in the Southwestern United States see Christian & Christian 1966) .

As a result of the dominance of both English and Spanish, Roswell is a truly bilingual community with constant code-switching. Two examples I took special note of were the name of a local restaurant "El Burrito Man" and a conversation I observed:

> Teacher-"¿Cómo estás?" .
> Custodian-"Okay, I guess. ¿Y Usted?"

Although you can see Spanish in the windows of many local markets and hear it in the streets there is no local Spanish Newspaper. Many of the native New Mexicans who I interviewed claimed not to be able to read and write Spanish well although they were fluent speakers. In addition to the native New Mexican Spanish speakers, many of the immigrants from Mexico are also illiterate in Spanish due to their low socio-economic status in their country. This lack of literacy in Spanish might well explain the lack of a local Spanish newspaper. Nonetheless other Spanish-language media is available: there is one local Spanish radio station and there is also a Spanish TV station from Portales, NM.

3.2. Administration of the Questionnaires.

During my one-week stay in Roswell, May of 1995, I visited a grade school, a middle school and a high school. These schools all draw their students from Roswell's predominantly Hispanic neighborhood called "Chihuahuita" or "Little Chihuahua"--derived from the name of Mexican state of Chihuahua which borders NM, and is the origin of the majority of the local immigrants. These schools were selected because they all had E.S.L. or Bilingual Education programs in place: This was important in order to ensure that I included enough monolingual (or near monolingual) Spanish speakers in my sample.

I administered all of the questionnaires, presenting the instructions in both Spanish and English. The questionnaires were given to the students in a booklet which had both an English and a Spanish version of the questionnaire and an answer sheet (see Appendices A and B). Students were advised to complete the questionnaire in the language with which they felt most comfortable. Although most students took an average of 50 minutes to complete the questionnaires, some were not able to finish during one class period. The slowness of some of the subjects was surely a result of their low level of literacy in both languages.

3.3. Data Analysis.

I did not approach this study with a set of predefined constructs nor any fixed hypotheses of my own to test; I have instead, through the use of factor analysis and ANOVA, allowed the data to provide me with the constructs and relationships which are present. Each of the six sections of the questionnaire was designed to measure a particular construct (see Baker 1992 for a discussion of the development of the constructs and their measurement):

1. Youth Culture
2. Language Background and Use
3. Attitudes toward the Use, Value and Status of Spanish,
4. Attitudes toward the Use, Value and Status of English,
5. General Attitudes towards Spanish,
6. Attitudes towards Bilingualism.

However, a researcher cannot assume that the items in each section of the questionnaire will represent a unitary construct for every population. In this way, a factor analysis was used to test the dimensionality of each section. Then each factor was also checked for its internal reliability. After the underlying factors were ascertained, a cluster analysis was conducted. This allowed me to determine if any subjects grouped together based on shared characteristics. Finally, a correlational

analysis was conducted on all the variables (both the observable and those extracted through the use of factor analysis) in order to determine if any significant relationships exist. This analysis does not propose to suggest causality or dimensionality but only to confirm the existence of relationships. Future analysis of this data using LISREL causal modeling technique will take these findings further by predicting the directionality of the relationships. Nonetheless, I am still able to test both Baker's model of attitude formation as well as his findings since I will be able to verify the presence of the variables and their relationships to one another.

Because of my lack of initial hypothesis, and my use of factor analysis to allow the data to reveal the variables present in the data, I am presenting an emic view of what is going on with this population. Hence, this methodology will allow the data to present the community's own, unique patterns of attitudes and language use.

4. Results.

4.1. Demographic Information.

My sample consists of 217 subjects from 5th to 11th grade, ranging from 10-20 years old (see Appendix C for a breakdown of frequencies by age and grade). There were 107 (49.3%) females and 99 (45.6%) males[4].

From the additional items section of the questionnaire (see Appendix B), I obtained some interesting information about the subjects. For example, I found that only just under a quarter of the respondents were born in Mexico, yet almost half of their parents were born there. Unfortunately, the questions on mothers' and fathers' employment were not helpful since many of the children did not know what their parents did exactly, and some did not even know where their parents worked. Consequently, these questions did not provide any indication of socio-economic status as was anticipated. Because of their unreliability, these data are not included.

[4]Differences in N are a result of no response answers, in this case 11 (5.1%).

The additional items which asked about the length of time subjects have lived in Roswell and the U.S. did provide some information which indicates that, as is common in our society today, many of these individuals have moved to Roswell from other areas. In fact only 148 or 68% of the subjects were born and raised in the United States. In addition, out of those 148, only 76 (or 35% of the total number of subjects) were born and raised in Roswell.

TABLE 4.1.B. PLACE OF BIRTH OF SUBJECT AND PARENTS

Place of Birth	Frequency	Percent
U.S.	162	74.7
Mexico	52	24.0
Other	3	1.4

Mother's Place of Birth	Frequency	Percent	Valid Percent[5]
U.S.	107	49.3	52.5
Mexico	94	43.3	46.1
Other	3	1.4	1.5
No Response	13	6	

Father's Place of Birth	Frequency	Percent	Valid Percent
U.S.	101	46.5	51.5
Mexico	93	42.9	47.9
Other	2	.9	1.0
No Response	21	9.6	

[5]'Percent' = percent of total N (217) and 'Valid Percent' = percent of subjects responding to this particular item.

4.2. Language Proficiency.

In order to determine the level of proficiency in both Spanish and English, the subjects were asked to rate themselves in speaking ability in Spanish and English (see table 4.2. for a summary of this section). This data was collected in the fourth section of the questionnaire which consisted of three items asking respondents to compare themselves to their classmates in Spanish and English proficiency as well as in Mathematics.

TABLE 4.2.1 Math Ability.

Group mean: 2.75
Median/Mode: 3.00

	Frequency	Percent	Valid Percent
1 Near the top	26	12.0	12.6
2 Above average	41	18.9	19.8
3 Average	110	50.7	53.1
4 Below Average	19	8.8	9.2
5 Near the Bottom	11	5.1	5.3

No Response = 10

Baker included the question which elicited self-report data of ability in Math in order to be able to determine the reliability of the responses. Baker states, "a quasi-normal distribution gives an indication that some credence may be attached to the pupils' replies to this question" (1992: 54). The distribution for this question, although slightly inflated, does, in fact, represent a quasi-normal bell curve. In this way, the self-report data on language proficiency can safely be viewed as fairly accurate and hence valid, if not entirely representative of the reality of proficiency.

The self-report language proficiency data indicated that 80 (36.9%) out of the 217 young people rated themselves as "near the top" or "above average" in Spanish. Of those 80, 39 (or 18% of the total sample) can be classified as Spanish Dominant--that is to say rate themselves as strong in Spanish but weaker in English. 131 out of the 217 young people (60.3% of total subjects) rated themselves as "near the top" or "above average" in English. Of these 131, 90 (or 41.5% of the total sample) can be

classified as English Dominant--they consider themselves much stronger in English than in Spanish. 61 subjects (or 28%) consider themselves to be bilingual, i.e., either strong or average in both languages. In sum, my subjects were roughly 18% Spanish dominant, 41.5% English dominant and 19% bilingual.

TABLE 4.2.2 Spanish & English Language Proficiency.

		Item 105: English Ability				
		1 Near the Top	2 Above Average	3 Average	4 Below Avg.	5 Near the Bottom
Item 104: Spanish Ability	1 Near the Top	14	8	14	5	2
	2 Above Average	10	9	13	2	3
	3 Average	18	6	21	6	
	4 Below Average	19	6	5	1	
	5 Near the Bottom	35	6	3	1	
	No Response	10				

Spanish Dominant = 39 1 or 2 in Spanish Ability and a 3, 4, or 5 in English Ability.

English Dominant = 90 1 or 2 in English Ability and a 3, 4, or 5 in Spanish Ability.

Bilingual = 61 1 and 2 or 3 in both Spanish Ability and English Ability.

4.3. Frequencies[5] and Factor Analyses[7].

The frequencies of the responses of the remaining sections of the questionnaire should also be considered so that a more complete picture of the overall patterns of language use and attitudes in my sample can be constructed. However, in order to determine if the scales were testing unitary or multidimensional constructs, a factor

[6]Raw percentages are used in the reporting of all frequency data and therefore might not equal 100% due to lack of responses.

[7]Choosing to be conservative in my measurements, factors include only those items with loadings of 0.4 and greater.

analysis[8] was also conducted on each section of the questionnaire. The following twelve factors resulted:

Section 1: (1) Youth Culture 1: Social Activities;
(2) Youth Culture 2: Literary Activities or Sports;
(3) Youth Culture 3: Home/Family Activities;

Section 2: (4) Language Background 1: Use with Peers and for Activities;
(5) Language Background 2: Use with Church/Elders;

Section 3: (6) Use Value & Status Attitudes Toward Spanish 1: Instrumental;
(7) Use Value & Status Attitudes Toward Spanish 2: Integrative;

(8) Use Value & Status Attitudes Toward English 1: Instrumental;
(9) Use Value & Status Attitudes Toward English 2: Integrative;

Section 5: (10) General Attitudes to Spanish 1: Positively Worded items;
(11) General Attitudes to Spanish 2: Negatively Worded items;

Section 6: and (12) Attitudes Towards Bilingualism.

Following the factor analysis of each section, the alpha reliability coefficient of the factors was calculated. All three Youth Culture factors and the General Attitudes Towards Spanish Factor 2: Negative Wording fall below the acceptable level of reliability, i.e., <0.80[9]. In addition, the 0.834 reliability of Use Value and Status of Spanish Factor 2: Integrative is borderline in its acceptability. All other factors yielded acceptable levels of reliability. All reliability coefficients are reported below with the factors, themselves.

4.3.1. Youth Culture.

Section one of the questionnaire included twenty-eight items, on a five-point Likert scale, measuring the types and frequencies of activities in which the respondents might be engaged. The final purpose of this section was to determine if there were

[8]Although Baker uses the term "latent variable" in the place of factor throughout his work, I will use the more traditional term factor herein.
[9]I have adopted Baker's standard which demands that "such measurement of internal consistency requires a value of 0.8 or above (...)" (1992: 24).

any particular set of activities which form a strong association with attitudes or either maintenance or loss of the minority language.

TABLE 4.3.1-1. RESPONSES TO YOUTH CULTURE SCALES.
Note: 1= Very Often and 5 = Never.

	MEAN	A. VERY OFTEN	B. FAIRLY OFTEN	C. SOMETIMES	D. RARELY	E. NEVER
10. Play cassettes/CDs	1.51	151 (69.6%)	32 (14.7%)	24 (11.1%)	9 (4.1%)	1 (0.5%)
4. Watch TV/Videos	1.71	115 (53.0%)	59 (27.2%)	34 (15.7%)	9 (4.1%)	0
20. Help at home	1.98	92 (42.2%)	54 (24.9%)	58 (26.7%)	9 (4.1%)	4 (1.8%)
14. Spend time with girls my age	2.10	92 (42.4%)	54 (24.9%)	38 (17.5%)	21 (9.7%)	11 (5.1%)
3. Play sports	2.23	79 (36.4%)	43 (19.8%)	70 (32.3%)	16 (7.4%)	9 (4.1%)
25. Spend time at home with my family	2.25	80 (36.9%)	43 (19.8%)	62 (28.6%)	24 (11.1%)	8 (3.7%)
11. Visit relatives	2.29	57 (26.3%)	72 (33.2%)	62 (28.6%)	21 (9.7%)	5 (2.3%)
21. Homework	2.33	74 (34.1%)	47 (21.7%)	63 (29.0%)	17 (7.8%)	16 (7.4%)
13. Spend time with boys my age	2.38	79 (36.4%)	42 (19.4%)	53 (24.4%)	28 (12.9%)	15 (6.9%)
16. Walking	2.41	54 (24.9%)	58 (26.7%)	73 (33.6%)	23 (10.6%)	8 (3.7%)
15. Go shopping	2.56	34 (15.7%)	69 (31.8%)	80 (36.9%)	26 (12.0%)	8 (3.7%)
28. Go on vacation with my family	2.57	60 (27.6%)	35 (16.1%)	72 (33.2%)	39 (18.0%)	11 (5.1%)
12. A hobby	2.62	57 (26.3%)	72 (33.2%)	62 (28.6%)	21 (9.7%)	5 (2.3%)
2. Go to church	2.64	62 (28.6%)	38 (17.5%)	55 (25.3%)	40 (18.4%)	22 (10.1%)
26. Go out with my family	2.74	37 (17.1%)	42 (19.4%)	92 (42.4%)	33 (15.2%)	13 (6.0%)
7.Read magazines/comics	2.82	25 (11.5%)	62 (28.6%)	74 (34.1%)	38 (17.5%)	18 (8.3%)
24. Eat out with my family	2.85	29 (13.4%)	50 (23.0%)	78 (35.9%)	43 (19.8%)	16 (7.4%)
23. Go to the movies	2.98	30 (13.8%)	40 (18.4%)	77 (35.5%)	44 (20.3%)	26 (12.0%)
8. Go dancing	3.18	41 (18.9%)	23 (10.6%)	54 (24.9%)	53 (24.4%)	46 (21.2%)
27. Play with family pets	3.26	29 (13.4%)	41 (18.9%)	46 (21.2%)	44 (20.3%)	56 (25.8%)
6. Read books outside of school	3.31	16 (7.4%)	31 (14.3%)	75 (34.6%)	60 (27.6%)	35 (16.1%)
22. Play computer games	3.31	23 (10.6%)	35 (16.1%)	64 (29.5%)	42 (19.4%)	53 (24.4%)
18. Do nothing much	3.47	16 (7.4%)	22 (10.1%)	68 (31.3%)	61 (28.1%)	47 (21.7%)
5. Read newspapers	3.52	10 (4.6%)	28 (12.9%)	69 (31.8%)	59 (27.2%)	51 (23.5%)
9. Part-time work	3.61	20 (9.2%)	23 (10.6%)	53 (24.4%)	47 (21.7%)	74 (34.1%)
17. Go to the library	3.82	5 (2.3%)	12 (5.5%)	57 (26.3%)	87 (40.1%)	56 (25.8%)
19. Play a musical instrument	4.08	22 (10.1%)	12 (5.5 %)	19 (8.8%)	37 (17.1%)	127 (58.5%)
1. Go to a youth club	4.09	12 (5.5%)	5 (2.3%)	41 (18.9%)	51 (23.5%)	107 (49.3%)

Table 4.3.1-1. presents the responses to the Youth Culture items, from most to least frequent, as calculated by the group means (i.e. the average score). This

population represents a typical, North American student group with activities such as listening to music, watching television, home and playing sports at the top of their activity list and reading the newspaper, playing a musical instrument, and going to the library towards the bottom of the list.

Baker's factor analysis of this section found that Youth Culture was really viewed by his subjects as two dimensional since the items separated out into two factors: (1) activities pertaining to Welsh and literary culture and (2) those associated with popular culture. After conducting an Orthogonal Rotation of Principal Factor Analysis on my data, the scales in this section of the questionnaire yielded three factors: 1 = Social Activities, 2 = Literary and Sports Activities, and 3 = Activities associated with Home and Family Life (refer to table 4.3.1-2). In other words, this population's patterns of responses separates the items (and hence the subjects themselves) into three distinct types of activities (1 = Social Activities, 2 = Literary and Sports Activities, and 3 = Activities associated with Home and Family Life). In the cluster and correlation analyses sections below I will explore the relationships between these patterns of Youth Culture and other characteristics of the subjects.

When comparing Baker's two Youth Culture factors (Popular and Welsh culture) to my three, it is clear that two of my factors do closely correspond to Baker's. As Baker's Welsh factor was in large part made up of literary-type activities and therefore parallels my Literary and Sports Activities factor. Along a similar vein, my 'Social' factor also follows the same pattern as Baker's "popular culture" factor. However, a third factor 'Home/Family' emerged in my data. This may possibly be due to the addition of items to my questionnaire which were not part of Baker's and/or to differences in the populations, i.e. the strong sense of family in Hispanic culture. The additional items and factor notwithstanding, my data did not result in much better reliabilities for the factors: None of my nor Baker's Youth Culture factors are of acceptable reliability. It is possible that this is a result of the need for a more thorough

compilation of items which better represent the activities of youth in these communities.

TABLE 4.3.1-2. Youth Culture Factors.

	Factor 1: Social	Factor 2: Literary/ Sports	Factor 3: Home/ Family
Reliabilities:	.6674	.6689	.6884
3. Play sports		.481	
5. Read newspapers		.423	
6. Read books outside of school		.636	
7. Read magazines/comics		.441	
13. Spend time with boys my age	.434		
14. Spend time with girls my age	.497		
15. Go shopping	.426		
17. Go to the library		.633	
20. Help at home			.578
21. Homework			.473
23. Go to the movies	.626		
24. Eat out with my family	.506		
25. Spend time at home with my family			.742
26. Go out with my family			.643

In addition, 12 of the 28 items did not fall into any of the three groupings. This may indicate that they are entirely unrelated to any of the factors. Alternatively, some of these might have been left out because the subjects had problems interpreting them. From the questions students asked in class during the actual administration of the questionnaires, item 12 'A hobby' was problematic for some of the Spanish speakers since many of them did not know the vocabulary item in Spanish. It became clear that some Spanish speakers also had difficulty interpreting 'Go dancing' (item 8) since they were not certain if this would also include parties where you dance. It is possible that this item may not be valid for this population, i.e., it may be a remnant of the cultural differences between Wales (where minors are allowed into clubs) and the U.S. (where young people under 21 cannot enter bars and most clubs). Through the follow-up interviews, I found that item 18. 'Do nothing much' was seen as vague and item 1. 'Go

to a youth club' created quite a bit of confusion since many students did not seem to know what a youth club might be even though they do exist in the area. One additional problem arose with the youngest subjects who were unsure of what would constitute part-time work (item 19).

In sum, the subjects in this study interpreted the scales in the section on Youth Culture as three unique constructs: (1) Social activities, (2) Literary/Sports activities and (3) Home/Family activities. Two of these, (1) Social activities and (2) Literary/Sports activities, correspond closely with Baker's two Youth Culture factors--(1) Popular Culture and (2) Welsh/Literary Culture respectively. In this way, this population separates extra-curricular activities into three distinct domains. In turn the relationships between the patterns of behaviors in these three domains and language background and use and/or language attitudes will be explored below.

4.3.2. Language Background and Use.

The second part of the questionnaire used thirty-four items (again on a five-point Likert scale) to elicit language background and use information. Subjects were required to indicate which language they use most often (English or Spanish) with whom and for what activities as well as what language others use with them.

In spite of the fact that nearly half of my respondents are either Spanish dominant or bilingual Spanish speakers, there is evidence from the language use data that Spanish is not being used across generations in this community (refer to table 4.3.2-1). This is surprising when one considers the constant influx of new immigrants. Other researchers, such as Zentella, have suggested that new immigration and contact with the country of origin promote the maintenance of Spanish beyond the third generation in Hispanic immigrant populations in the United States (see Zentella 1990: 158 also cf. 'Aipolo & Holmes 1990 for the case of immigrants in New Zealand). Roswell has both convenient access to its country of origin and a constant influx of

new immigrants and yet only a small portion of the sample reports using Spanish in all domains.

Most remarkable are the differences in language use patterns between generations of the family. Almost half of the subjects report using mostly Spanish with grandparents. In spite of the geographical proximity to Mexico, this trend diminishes to approximately one-third of the subjects using Spanish with their parents. Then, with siblings and friends, the percent reporting use of mostly Spanish decreases again to roughly only 10%. These data indicate that the youngest generations are preferring to use (or at the very least preferring to report the use of) English over Spanish with their siblings, peers and in most social situations.

Is this evidence that these young people are shifting away from Spanish even though their older relatives and parents continue to use the language? It is possible that the majority of the Spanish dominant and bilingual speakers in this population will not pass Spanish on to their own children and thus follow the typical pattern of third-generation shift in immigrant populations. But, in the words of Zentella, "las entrevistas y los cuestionarios pueden revelar algunas actitudes formales y proveen datos demográficos, pero no captan el proceso dinámico del uso del habla en la comunidad y su desarrollo a través del tiempo" (1990: 158). Therefore it is possible that something else is amiss.

One alternative explanation is that Spanish has been reduced to a limited domain: that of the home and church. García, Evangelista, et al. found that among bilingual Hispanics in New York there was "extensive use of Spanish as the private language of the home..." (1988: 488). The special role of the home in maintenance of minority languages has been discussed as an important variable in other contexts as well (cf. 'Aipolo & Holmes 1990). Unfortunately, I have no way to test this hypothesis with the present data. However, it is important to note that restricted use of Spanish

may not in and of itself imply imminent shift, but could be an indicator of an emerging diglossic relationship between the languages.

An Oblique Rotation of Principal Factor Analysis was conducted and two factors were found to underlie the section on Language Background. Their composition is especially interesting in that they follow the same strict generational divisions of language use which were evidenced in the frequencies reported above: Factor 1 includes everyone who might be considered a peer and all activities, while Factor 2 includes only elders and church (refer to table 4.3.2-2.). Both of these factors have extremely high reliability coefficients as well. Furthermore, Baker found only one factor in his population which contained all items in the section.

TABLE 4.3.2-1. LANGUAGE USE FREQUENCIES
PART A. In which language do the following people speak to you?

NOTE: 1 = Always in Spanish and 5 = Always in English.
Group Mean = 3.56, Standard Deviation = 1.25, Median = 3.80

	MEAN - MODE	ALWAYS IN SPANISH	IN SPANISH MORE OFTEN THAN ENGLISH	IN SPANISH & ENGLISH EQUALLY	IN ENGLISH MORE OFTEN THAN SPANISH	ALWAYS IN ENGLISH
Grandparents	2.67 - 1	105(48.4%)	8 (3.7%)	12 (5.5%)	23 (10.6%)	63 (29.0%)
Father	2.90 - 1	77 (35.5%)	23 (10.6%)	17 (7.8%)	20 (9.2%)	68 (31.3%)
Mother	3.01 - 1	78 (35.9%)	14 (6.5%)	28 (12.9%)	23 (10.6%)	74 (34.1%)
Other relatives	3.23 - 5	53 (24.4%)	25 (11.5%)	32 (14.7%)	26 (12.0%)	79 (36.4%)
Neighbors (near my house)	3.76 - 5	34 (15.7%)	17 (7.8%)	30 (13.8%)	19 (8.8%)	114 (52.5%)
Brothers/ Sisters	3.80 - 5	21 (9.7%)	20 (9.2%)	45 (20.7%)	24 (11.1%)	105 (48.4%)
Friends in class	3.89 - 5	18 (8.3%)	21 (9.7%)	32 (14.7%)	42 (19.4%)	104 (47.9%)
Friends on the playground	3.93 - 5	24 (11.1%)	15 (6.9%)	26 (12.0%)	34 (15.7%)	114 (52.5%)
Friends outside of school	3.94 - 5	19 (8.8%)	23 (10.6%)	27 (12.4%)	31 (14.3%)	117 (53.9%)
Teachers	4.24- 5	5 (2.3%)	5 (2.3%)	25 (11.5%)	40 (18.4%)	142 (65.4%)

PART B. In which language do YOU speak to the following people?

NOTE: 1 = Always in Spanish & 5 = Always in English. Group Mean = 3.72, Standard Deviation = 1.24, Median = 4.00

	MEAN - MODE	ALWAYS IN SPANISH	IN SPANISH MORE OFTEN THAN ENGLISH	IN SPANISH & ENGLISH EQUALLY	IN ENGLISH MORE OFTEN THAN SPANISH	ALWAYS IN ENGLISH
Grandparents	2.82-1	97 (44.7%)	9 (4.1%)	17 (7.8%)	14 (6.5%)	75 (34.6%)
Mother	3.02 - 5	74 (34.1%)	20 (9.2%)	24 (11.1%)	22 (10.1%)	75 (34.6%)
Father	3.05 - 5	69 (31.8%)	26 (12.0%)	17 (7.8%)	22 (10.1%)	76 (35%)
Other relatives	3.27 - 5	49 (22.6%)	23 (10.6%)	45 (20.7%)	17 (7.8%)	81 (37.3%)
Family pets	3.75 - 5	38 (17.5%)	9 (4.1%)	33 (15.2%)	7 (3.2%)	115 (53.0%)
Neighbors (near my house)	3.76- 5	31 (14.3%)	16 (7.4%)	32 (14.7%)	28 (12.9%)	105 (48.4%)
Brothers/ Sisters	3.84- 5	22 (10.1%)	16 (7.4%)	42 (19.4%)	31 (14.3%)	105 (48.4%)
Friends in class	3.90- 5	15 (6.9%)	27 (12.4%)	29 (13.4%)	38 (17.5%)	107 (49.3%)
Friends outside of school	3.93- 5	23 (10.6%)	15 (6.9%)	26 (12.0%)	41 (18.9%)	110 (50.7%)
Friends on the playground	3.97- 5	24 (11.1%)	17 (7.8%)	25 (11.5%)	25 (11.5%)	124 (57.1%)
Teachers	4.21- 5	7 (3.2%)	15 (6.9%)	24 (11.1%)	51 (23.5%)	120 (55.3%)

PART C. Which language do YOU use when doing the following?

NOTE: 1 = Always in Spanish and 5 = Always in English. Group Mean = 3.86, Standard Deviation = 1.25, Median = 4.385

	MEAN - MODE	A. ALWAYS SPANISH	B. IN SPANISH MORE OFTEN THAN ENGLISH	C. IN SPANISH & ENGLISH EQUALLY	D. IN ENGLISH MORE OFTEN THAN SPANISH	E. ALWAYS ENGLISH
51. Going to Church	3.34-5	60 (27.6%)	17 (7.8%)	23 (10.6%)	14 (6.5%)	97 (44.7%)
54. Listening to radio	3.64- 5	39 (18.0%)	15 (6.9%)	34 (15.7%)	22 (10.1%)	104 (47.9%)
53. Listening to tapes/CDs	3.67- 5	27 (12.4%)	19 (8.8%)	48 (22.1%)	25 (11.5%)	96 (44.2%)
61. Playing with family pets	3.77- 5	37 (17.1%)	12 (5.5%)	26 (12.0%)	11 (5.1%)	114 (52.5%)
62. Other leisure activities	3.82- 5	21 (9.7%)	19 (8.8%)	43 (19.8%)	19 (8.8%)	107 (49.3%)
57. On the phone	3.85- 5	23 (10.6%)	18 (8.3%)	40 (18.4%)	20 (9.2%)	113 (52.1%)
59. Earning money	3.94- 5	24 (11.1%)	10 (4.6%)	30 (13.8%)	30 (13.8%)	109 (50.2%)
56. Playing sports	3.98- 5	23 (10%)	15 (6.9%)	29 (13.4%)	17 (7.8%)	124 (57.1%)
55. Shopping	4.01- 5	20 (9.2%)	16 (7.4%)	30 (13.8%)	25 (11.5%)	123 (56.5%)
50. Watching TV/ Videos	4.03- 5	8 (3.7%)	21 (9.7%)	43 (19.8%)	20 (9.2%)	115 (53.0)
52. Reading Newspapers/ Comics/Magazines	4.04- 5	26 (12.0%)	14 (6.5%)	21 (9.7%)	14 (6.5%)	136 (62.7%)
58. Reading books	4.05 - 5	19 (8.8%)	12 (5.5%)	37 (17.1%)	18 (8.3%)	129 (59.4%)
60. Clubs	4.32- 5	16 (7.4%)	2 (0.9%)	20 (9.2%)	16 (7.4%)	132 (60.8%)

In brief, both the frequency data and the factor analysis supports the premise that these subjects have separated their language use into two separate domains. One domain is very private and includes the home and church, the other is more public and social. This separation of language use, since it includes a generational division, may be evidence of impending shift to Spanish. Nonetheless, it may also be an indicator of an emerging diglossic relationship between Spanish and English. A final word of caution must be added here. Through the observation of the ESL classes, I was made aware that the ESL teachers really push the students to use English with them and with their peers. As a result, there is a possibility that this trend of separation is in part a manifestation of the students reporting what they believe their teachers would want. Unfortunately, this is one of the problems with collection of self-report data without enough observation of the actual language use of the subjects to corroborate the results.

TABLE 4.3.2-2. Language Background Factors.

Part A. In which language do YOU speak to the following people?

	Factor 1: Peer/Activity	Factor 2: Church/Elders
Reliabilities:	**.9827**	**.9749**
29. Father		.878
30. Mother		.856
31. Brothers/Sisters	.630	
32. Friends in class	.955	
33. Friends outside of school	.919	
34. Teachers	.931	
35. Friends on the playground	.948	
36. Neighbors (near my house)	.575	
37. Grandparents		.982
38. Other relatives		.777
39. Family pets	.680	

Part B. In which language do the following people speak to you?

	Factor 1: Peer/Activity	Factor 2: Church/Elders
40. Father		.945
41. Mother		.857
42. Brothers/Sisters	.548	
43. Friends in school	.972	
44. Friends outside of school	.916	
45. Teacher	.699	
46. Friends on the playground	.970	
47. Neighbors (near my house)	.621	
48. Grandparents		.983
49. Other relatives		.817

Part C. Which language do YOU use when doing the following?

	Factor 1: Peer/Activity	Factor 2: Church/Elders
50. Watching TV/ Videos	.447	.409
51. Going to Church		.639
52. Reading Newspapers/ Comics/Magazines	.876	
53. Listening to tapes/CDs	.605	
54. Listening to radio	.549	
55. Shopping	.506	
56. Playing sports	.811	
57. On the telephone	.689	
58. Reading books	.72158	
59. Earning money	.696	
60. Clubs	.864	
61. Playing with family pets	.661	
62. Other leisure activities	.620	

4.3.3. Attitudes Toward the Use, Value and Status of Spanish & English.

The third section of the questionnaire measured the Use, Value and Status attitudes towards both Spanish and English using two identical twenty-item sub-sections. Each

required responses on a four-point Likert scale. When considering the data collected by these scales, we see that, in general the distribution is either neutral or skewed to the positive side for both English and Spanish. In fact, none of the means for any of the items are entirely negative (refer to Tables 4.3.3-1. and 4.3.3-2.). For example, the lowest mean ranking the importance of Spanish was only 2.75 for "singing with others" (item 73), with 4 being the most important. So, even though this is the most negative ranking received by any item, it is still not entirely negative.

TABLE 4.3.3-1. Attitudes Toward the Use, Value and Status of Spanish.

Note: 1 = Important and 4 = Unimportant.
Group Mean = 2.21, Standard Deviation = .73, Median = 2.05

For people to:	MEAN	IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	UN IMPORTANT
68. Get a job	1.59	132 (60.8%)	36 (16.6%)	21 (9.7%)	14 (6.5%)
69. Become smarter	1.87	104 (47.9%)	47 (21.7%)	22 (10.1%)	28 (12.9%)
78. Pass exams	1.98	100 (46.1%)	41 (18.9%)	22 (10.1%)	37 (17.1%)
63. Make friends	1.99	83 (38.2%)	67 (30.9%)	27 (12.4%)	27 (12.4%)
66. Write	2.01	84 (38.7%)	57 (26.3%)	31 (14.3%)	28 (12.9%)
64. Earn plenty of money	2.04	78 (35.9%)	58 (26.7%)	44 (20.3%)	21 (9.7%)
72. Go to church	2.04	87 (40.1%)	50 (23.0%)	27 (12.4%)	34 (15.7%)
65. Read	2.07	79 (36.4%)	61 (28.1%)	28 (12.9%)	33 (15.2%)
75. Raise children	2.08	92 (42.4%)	39 (18.0%)	25 (11.5%)	41 (18.9%)
79. Be accepted in the community	2.10	76 (35.0%)	58 (26.7%)	25 (11.5%)	35 (16.1%)
70. Be liked	2.20	73 (33.6%)	48 (22.1%)	29 (13.4%)	41 (18.9%)
82. Talk to people out of school	2.25	57 (26.3%)	70 (32.3%)	40 (18.4%)	34 (15.7%)
80. Talk to friends in school	2.31	53 (24.4%)	70 (32.3%)	38 (17.5%)	38 (17.5%)
71. Live in New Mexico	2.32	51 (23.5%)	67 (30.9%)	33 (15.2%)	40 (18.4%)
81. Talk to teachers in school	2.33	63 (29.0%)	48 (22.1%)	29 (13.4%)	48 (22.1%)
77. Make phone calls	2.43	46 (21.2%)	56 (25.8%)	57 (26.3%)	37 (17.1%)
76. Go shopping	2.55	34 (15.7%)	62 (28.6%)	56 (25.8%)	43 (19.8%)
74. Play sports	2.56	45 (20.7%)	52 (24.0%)	41 (18.9%)	56 (25.8%)
67. Watch TV/Videos	2.62	34 (15.7%)	51 (23.5%)	66 (30.4 %)	45 (20.7%)
73. Sing (with others)	2.75	22 (10.1%)	61 (28.1%)	46 (21.2%)	58 (26.7%)

The attitudes towards English are skewed even more to the positive side than the Spanish. In this section we again see the general trend of positive attitudes towards English. As indicated by the group mean, 1.86, the overall attitudes are more positive than towards Spanish (which had a group mean of 2.21). Even the most negative response in the Use, Value and Status of English (also "Sing with others"

item 93) had a mean of 2.58, which is basically neutral and not negative. Interestingly, for both the Use, Value and Status of Spanish and English sections "Get a job" is the item considered to be the most important and "Sing with others" is considered to be the least important. Surprisingly, the students do not rate English as important in the area of TV/Videos in spite of the lack of equivalent quality Spanish television and video materials: this item, 87, received a mean of 2.13 placing it third to the last in this section.

4.3.3-2. Attitudes Toward The Use, Value and Status of English.

Note: 1 = Important and 4 = Unimportant.
Group Mean = 1.86, Standard Deviation = .64, Median = 1.75

For people to:	MEAN	IMPORTANT	SOMEWHAT IMPORTANT	SOMEWHAT UNIMPORTANT	UN-IMPORTANT
88. Get a job	1.40	149 (68.7%)	40 (18.4%)	9 (4.1%)	8 (3.7%)
98. Pass exams	1.57	134 (61.8%)	37 (17.1%)	19 (8.8%)	14 (6.5%)
86. Write	1.60	124 (57.1%)	49 (22.6%)	17 (7.8%)	13 (6.0%)
89. Become smarter	1.65	125 (57.6%)	40 (18.4%)	22 (10.1%)	16 (7.4%)
101. Talk to teachers in school	1.68	115 (53.0%)	51 (23.5%)	19 (8.8%)	16 (7.4%)
85. Read	1.68	119 (54.8%)	49 (22.6%)	20 (9.2%)	17 (7.8%)
84. Earn plenty of money	1.71	109 (50.2%)	58 (26.7%)	21 (9.7%)	15 (6.9%)
95. Raise children	1.74	119 (54.8%)	40 (18.4%)	13 (6.0%)	27 (12.4%)
83. Make friends	1.76	107 (49.3%)	62 (28.6%)	17 (7.8%)	20 (9.2%)
99. Be accepted in the community	1.77	98 (45.2%)	60 (27.6%)	21 (9.7%)	16 (7.4%)
100. Talk to friends in school	1.86	94 (43.3%)	63 (29.0%)	24 (11.1%)	21 (9.7%)
92. Go to church	1.90	92 (42.4%)	64 (29.5%)	25 (11.5%)	23 (10.6%)
90. Be liked	1.90	92 (42.4%)	57 (26.3%)	24 (11.1%)	24 (11.1%)
102. Talk to people out of school	1.92	85 (39.2%)	66 (30.4%)	26 (12.0%)	22 (10.1%)
94. Play sports	2.06	71 (32.7%)	69 (31.8%)	27 (12.4%)	28 (12.9%)
97. Make phone calls	2.10	64 (29.5%)	76 (35.0%)	40 (18.4%)	22 (10.1%)
91. Live in New Mexico	2.12	69 (31.8%)	71 (32.7%)	30 (13.8%)	32 (14.7%)
87. Watch TV/Videos	2.13	65 (30.0%)	63 (29.0%)	55 (25.3%)	18 (8.3%)
96. Go shopping	2.20	58 (26.7%)	73 (3.6%)	41 (18.9%)	28 (12.9%)
93. Sing (with others)	2.41	48 (22.1%)	61 (28.1%)	42 (19.4%)	43 (19.8%)

Hence, the frequency data indicates that the students seemed to deem most important those items for which language skills are instrumentally necessary, regardless of the language: getting a job, passing exams, becoming smarter, writing, reading, etc. This trend of more favorable instrumental attitudes is very similar to the patterns which Baker found in his subjects' attitudes to Welsh.

The separation of instrumental attitudes as a separate and unique phenomenon was supported by factor analysis as well. After performing an oblique rotation on the Principal Component Analyses, these sections yielded two factors which support the instrumental-integrative distinctions in both the scales for Spanish and those for English: the items separated out into two factors which can be named as Instrumental and Integrative respectively (see tables 4.3.3-3 and 4.3.3-4 below). This parallels the work not only of Baker, but also of Gardner and Lambert as discussed above. All factors except the Spanish Integrative factor received an acceptable reliability. It is worth mentioning that the Welsh Integrative factor, although acceptable, also received a low reliability coefficient in Baker's study. This may suggest that the scales need to be revised to better reflect what integrative might mean in an L1 minority setting, as opposed to an L2 learning context. One way to address this issue might be to include items which measure attitudes towards the connection of language and ethnic identity, i.e., subjects may not view the L1 as a tool to become members of a group but as an emblem of group membership.

Interestingly some of the items in this section did repeat in the two factors for English whereas no items repeated in the Spanish factors. Nonetheless, when we observe which items repeated (83, 90, 94, 99 and 100), we note that these might be considered to have both integrational and integrative value to a young person. It is also important to note that these school children consider all activities relating to school as having some instrumental value. This is understandable since, for this age group, school is the equivalent of a job or career for an older age group. In this way we can find additional support for Gardner and Lambert's integrational-instrumental distinction in this data, but also learn that our adult preconceptions of what is instrumental or integrational may not always hold true for a young person.

Table 4.3.3-3. Use, Value and Status Attitudes Toward Spanish.

	Factor 1: Instrumental	Factor 2: Integrative
Reliabilities:	**.9365**	**.8338**
63. Make friends	.793	
64. Earn plenty of money	.790	
65. Read	.744	
66. Write	.781	
67. Watch TV/Videos		.520
68. Get a job	.714	
69. Become smarter	.894	
70. Be liked	.702	
71. Live in New Mexico		.728
72. Go to church	.686	
73. Sing (with others)		.656
74. Play sports		.434
75. Raise children	.573	
76. Go shopping		.617
77. Make phone calls		.724
78. Pass exams	.886	
79. Be accepted in the community	.577	
80. Talk to friends in school	.451	
81. Talk to teachers in school	.630	
82. Talk to people out of school		.443

Table 4.3.3-4. Use, Value and Status Attitudes Toward English.
Note: Items repeated in both factors in italics.

	Factor 1: Instrumental	Factor 2: Integrative
Reliabilities:	**.9141**	**.9086**
83. Make friends	*.631*	*.433*
84. Earn plenty of money	.670	
85. Read	.680	
86. Write	.725	
87. Watch TV/Videos		.693
88. Get a job	.724	
89. Become smarter	.728	
90. Be liked	*.521*	*.422*
91. Live in New Mexico		.647
92. Go to church	.636	
93. Sing (with others)		.723
94. Play sports	*.423*	*.524*
95. Raise children	.675	
96. Go shopping		.774
97. Make phone calls		.732
98. Pass exams	.817	
99. Be accepted in the community	*.479*	*.469*
100. Talk to friends in school	*.486*	*.529*
101. Talk to teachers in school	.573	
102. Talk to people out of school		.665

4.3.4. General Attitudes Toward Spanish Scales.

The questionnaire's fifth part rated general attitudes towards Spanish via twenty items on a five-point Likert scale. I must mention here that, due to limitations of time in administering the questionnaires, I was unable to obtain the same General Attitudes scale for English. Nevertheless, when we do look at the General Attitudes Scales for Spanish, we again see either positive or neutral attitudes (see Table 4.3.4-1. below). In fact only one of the items received an entirely negative response. The item which received the most negative response (which had a mode of 5 and a mean of 3.92 out of 5, with 5 being the most negative) involved the children's attitudes towards watching television in Spanish. Not surprisingly, these youths prefer the much more highly developed American media over the less sophisticated Spanish television to which they have access in Roswell. In this way the negative rating might be more a result of the quality of programming in Spanish than a reflection of actual language attitudes (cf. García, Evangelista, et al. for a discussion of attitudes toward Spanish vs. English TV programming).

The rest of the items which were the most negative towards Spanish had neutral modes and only moderately negative means, e.g. item 120 "I would like Spanish to take over for English in New Mexico" has an entirely mode of 3 and a mean of 2.66 which is only slightly more negative than neutral. In contrast we can clearly see positive attitudes towards Spanish in the answers to most items, e.g. over 70% of the subjects disagree with the statement, "Spanish will disappear since everyone in New Mexico can speak English" and agree with statements such as "Spanish is a language worth learning." These findings are in line with the positive attitudes found by Baker in Welsh pupils.

TABLE 4.3.4-1. General Attitudes Toward Spanish Scales.

1 = most positive and 5 = most negative response/Group Mean = 2.61, Standard Deviation = .599, Median = 2.60

	MEAN - MODE	STRONG-LY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DIS-AGREE	STRONGLY DISAGREE
*116. Spanish will disappear since everyone in New Mexico can speak English.	1.89 - 1	8 (3.7%)	6 (2.8%)	34 (15.7%)	63 (29.0%)	93 (42%)
114. Spanish is a language worth learning.	1.99 - 1	80 (36.9%)	72 (33.2%)	34 (15.7%)	10 (4.6%)	8 (3.7%)
*109. Its a waste of time to keep the Spanish language alive.	2.04 - 1	15 (6.9%)	20 (9.2%)	21 (9.7%)	51 (23.5%)	98 (45.2%)
*115. Spanish has no place in the modern world.	2.07 - 1	11 (5.1%)	16 (7.4%)	34 (15.7%)	59 (27.2%)	84 (38.7%)
118. We need to preserve the Spanish language.	2.14 - 2	60 (27.6%)	74 (34.1%)	54 (24.9%)	8 (3.7%)	6 (2.8%)
*122. You are considered to be a lower class person if you speak Spanish.	2.23 - 1	17 (7.8%)	13 (6.0%)	46 (21.2%)	50 (23.0%)	77 (35.5%)
110. I like speaking Spanish.	2.39 - 1	67 (30.9%)	49 (22.6%)	51 (23.5%)	18 (8.3%)	20 (9.2%)
108. Spanish should be taught to all students in New Mexico.	2.41 - 3	58 (26.7%)	54 (24.9%)	61 (28.1%)	17 (7.8%)	16 (7.4%)
*119. Children should not be made to learn Spanish.	2.43 - 1	72 (33.2%)	47 (21.7%)	37 (17.1%)	21 (9.7%)	27 (12.4%)
106. I like hearing Spanish spoken.	2.50 - 3	37 (17.1%)	67 (30.9%)	76 (35.0%)	17 (7.8%)	10 (4.6%)
113. I'm likely to use Spanish as an adult.	2.54 - 3	50 (23.0%)	52 (24.0%)	62 (28.6%)	24 (11.1%)	17 (7.8%)
125. If I have children, I would like them to speak Spanish.	2.62 - 3	45 (20.7%)	49 (22.6%)	68 (31.3%)	21 (9.7%)	20 (9.2%)
117. Spanish is essential to take part fully in life in Roswell.	2.75 - 3	32 (14.7%)	46 (21.2%)	80 (36.9%)	27 (12.4%)	16 (7.4%)
124. As an adult, I would like to marry a Spanish speaker.	2.87 - 3	30 (13.8%)	32 (14.7%)	98 (45.2%)	21 (9.7%)	22 (10.1%)
*112. There are more useful languages than Spanish.	2.95 - 3	28 (12.9%)	33 (15.2%)	73 (33.6%)	41 (18.9%)	29 (13.4%)
*111. Spanish is a difficult language to learn.	3.00 - 2	34 (15.7%)	38 (17.5%)	52 (24.0%)	56 (25.8%)	25 (11.5%)
*121. It's hard to study science in Spanish.	3.08 - 3	23 (10.6%)	36 (16.6%)	97 (44.7%)	27 (12.4%)	19 (8.8%)
123. I prefer to be taught in Spanish.	3.12 - 3	28 (12.9%)	19 (8.8%)	85 (39.2%)	45 (20.7%)	27 (12.4%)
120. I would like Spanish to take over for English in New Mexico.	3.33 - 3	22 (10.1%)	21 (9.7%)	71 (32.7%)	47 (21.7%)	43 (19.8%)
*107. I prefer to watch TV in English than in Spanish.	3.92 - 5	77 (35.5%)	58 (26.7%)	52 (24.0%)	16 (7.4%)	3 (1.4%)

Note: 1 = Strongly Agree and 5 = Strongly Disagree except for the questions indicated with an * which indicates that the scales for these items were reversed when the means were calculated due to the wording of the statements.

After performing an orthogonal rotation of the Principal Factor Analysis, two factors emerged from the scales which measured the general attitudes toward Spanish. This is in contrast to the single factor of General Attitudes towards Welsh

which Baker found. Furthermore, upon analysis of the items in each of the factors, no underlying psychological reality appears to unify the groupings. Instead, the groups appear to be fashioned based upon the wording of the items, i.e. factor one consists of the positively worded items and factor two consists of the negatively worded items (see table 4.3.4-2.). In this way the students appear to be responding more to the testing instrument than to the content of the items, themselves. The weakness of the factors is also reflected in their relatively low reliabilities, i.e., factor one is borderline and factor two is marginally unacceptable.

TABLE 4.3.4-2. General Attitudes Toward Spanish.

	Factor 1: + wording	Factor 2: - wording
Reliabilities:	.8694	.7431
106. I like hearing Spanish spoken.	.692	
107. I prefer to watch TV in English than in Spanish.	.488	
108. Spanish should be taught to all students in New Mexico.	.467	
109. Its a waste of time to keep the Spanish language alive.		.568
110. I like speaking Spanish.	.712	
113. I'm likely to use Spanish as an adult.	.655	
114. Spanish is a language worth learning.	.445	.563
115. Spanish has no place in the modern world.		.795
116. Spanish will disappear since everyone in New Mexico can speak English.		.680
117. Spanish is essential to take part fully in life in Roswell.	.502	
119. Children should not be made to learn Spanish.	.484	.413
120. I would like Spanish to take over for English in New Mexico.	.630	
122. You are considered to be a lower class person if you speak Spanish.		.441
123. I prefer to be taught in Spanish.	.741	
124. As an adult, I would like to marry a Spanish speaker.	.627	
125. If I have children, I would like them to speak Spanish.	.495	

4.3.5. Attitudes Toward Bilingualism.

The sixth and final part of the questionnaire measured attitudes towards bilingualism with twenty-four items using the same five-point Likert scale as part five. Again we see that the subjects group mean of 2.34 is slightly slanted to the positive: In general these students do not have negative attitudes towards bilingualism as a phenomena. Even the statements (see Table 4.3.5-1. below) which had the most negative responses have neutral modes and means which are only slightly more negative than neutral (140, 129 & 136). There are no items which received a solid negative response. As with the previous attitude sections, these findings also parallel Baker's: His sample also had generally positive attitudes towards bilingualism.

Furthermore, just as in Baker's study, only one factor resulted from the Principal Components analysis (refer to table 4.3.5-2. below). However, this factor did not include all of the items. In fact, the grouping for this factor follows much the same pattern as the General Attitudes factors for Spanish, discussed above, in that the positively worded items separated out from the negatively worded items. The exceptions are items 127 and 149, which both discuss the need to speak only one language. Nonetheless, if these items are taken literally, as young people might, they are not overtly negative towards bilingualism. In this way, we again find the factor analysis did not present us with any underlying psychological representation of the pupils' attitudes towards bilingualism. Instead we again find that they responded to the wording of the items.

TABLE 4.3.5-1. Attitudes Toward Bilingualism.

Group Mean = 2.34, Standard Deviation = .65, Median = 2.30
Note: 1 = Strongly Agree and 5 = Strongly Disagree except for the questions indicated with an * which indicates that the scales for these items were reversed when the means were calculated due to the wording of the statements.

TABLE 4.3.5-1. Attitudes Toward Bilingualism.	MEAN - MODE	A. STRONGLY AGREE	B. AGREE	C. NEITHER AGREE NOR DISAGREE	D. DISAGREE	C. STRONGLY DISAGREE
126. It is important to be able to speak English and Spanish.	1.75 - 1	105 (48.4%)	63 (29.0%)	23 (10.6%)	5 (2.3%)	7 (3.2%)
130. Speaking both Spanish & English helps to get a good job.	1.77 - 1	106 (48.8%)	61 (28.1%)	20 (9.2%)	9 (4.1%)	7 (3.2%)
148. Both English and Spanish can live together in New Mexico.	1.83 - 1	88 (40.6%)	79 (36.4%)	23 (10.6%)	6 (2.8%)	6 (2.8%)
145. When I become an adult, I would like to be considered a speaker of English & Spanish.	2.00 - 1	84 (38.7%)	62 (28.6%)	40 (18.4%)	10 (4.6%)	8 (3.7%)
143. Both English and Spanish should be important in New Mex.	2.00 - 1	77 (35.5%)	70 (32.3%)	40 (18.4%)	11 (5.1%)	5 (2.3%)
132. All schools in New Mexico should teach students to speak in English and Spanish.	2.01 - 1	86 (39.6%)	63 (29.0%)	35 (16.1%)	8 (3.7%)	12 (5.5%)
147. If I have children, I would want them to speak both English & Spanish.	2.05 - 1	88 (40.6%)	51 (23.5%)	35 (16.2%)	20 (9.2%)	8 (3.7%)
131. Being able to write in English & Spanish is important.	2.06 - 1	82 (37.8%)	56 (25.8%)	45 (20.7%)	14 (6.5%)	7 (3.2%)
*149. People only need to know one language.	2.20 - 1	11 (5.1%)	11 (5.1%)	51 (23.5%)	63 (29.0%)	66 (30.4%)
137. Children in New Mexico should learn to read in both English and Spanish.	2.22 - 2	66 (30.4%)	67 (30.9%)	44 (20.3%)	11 (5.1%)	15 (6.9%)
*135. Knowing both Spanish & English gives people problems.	2.24 - 2	12 (5.5%)	12 (5.5%)	47 (21.7%)	73 (33.6%)	58 (26.7%)
133. Road signs should be in English & Spanish.	2.25 - 2	62 (28.6%)	67 (30.9%)	49 (22.6%)	14 (6.5%)	12 (5.5%)
141. Speaking both Spanish & English helps people get promoted in their job.	2.30 - 1 & 2	61 (28.1%)	61 (28.1%)	52 (24.0%)	20 (9.2%)	10 (4.6%)
138. People know more if they speak English and Spanish.	2.51 - 2	47 (21.7%)	63 (29.0%)	50 (23.0%)	30 (13.8%)	14 (6.5%)
146. All people in New Mexico should speak English and Spanish.	2.52 - 3	50 (23.0%)	50 (23.0%)	63 (29.0%)	26 (12.0%)	13 (6.0%)
134. Speaking two languages is not difficult.	2.54 - 2	38 (17.5%)	66 (30.4%)	64 (29.5%)	24 (11.1%)	12 (5.5%)
*127. To speak one language in New Mexico is all that is needed.	2.56 - 2	19 (8.8%)	23 (10.6%)	46 (21.2%)	79 (36.4%)	36 (16.6%)
128. Knowing Spanish and English makes people smarter.	2.62 - 3	44 (20.3%)	53 (24.4%)	57 (26.3%)	36 (16.6%)	14 (6.5%)
142. Young children learn to speak Spanish & English at the same time easily.	2.63 - 3	37 (17.1%)	54 (24.9%)	73 (33.6%)	26 (12.0%)	13 (6.0%)
144. I would not want English to take over Spanish.	2.81 - 3	33 (15.2%)	41 (18.9%)	81 (37.3%)	28 (12.9%)	20 (9.2%)
139. People who speak Spanish & English can have more friends than those who speak only one language.	2.91 - 3	36 (16.6%)	42 (19.4%)	57 (26.3%)	43 (19.8%)	26 (12.0)
140. Speaking both English & Spanish is harder for older than younger people.	3.02 - 3	26 (12.0%)	34 (15.7%)	74 (34.1%)	50 (23.0%)	20 (9.2%)
*129. Children get confused when learning English & Spanish.	3.08 - 3	24 (11.1%)	50 (23.0%)	63 (29.0%)	53 (24.4%)	14 (6.5%)
136. I feel sorry for people who can not speak both Spanish and English.	3.1 - 3	27 (12.4%)	24 (11.1%)	74 (34.1%)	40 (18.4%)	38 (17.5%)

Table 4.3.5-2. . Attitudes Toward Bilingualism.

	1 Factor: + wording
Reliability:	**.9132**
126. It is important to be able to speak English and Spanish.	.748
127. To speak one language in New Mexico is all that is needed.	.481
128. Knowing Spanish and English makes people smarter.	.477
130. Speaking both Spanish and English helps to get a good job.	.622
131. Being able to write in English & Spanish is important.	.788
132. All schools in New Mexico should teach students to speak in English and Spanish.	.822
133. Road signs should be in English & Spanish.	.644
134. Speaking two languages is not difficult.	.531
135. Knowing both Spanish and English gives people problems.	.393
136. I feel sorry for people who can not speak both Spanish and English.	.364
137. Children in New Mexico should learn to read in both English and Spanish.	.809
138. People know more if they speak English and Spanish.	.573
139. People who speak Spanish & English can have more friends than those who speak only one language.	.537
141. Speaking both Spanish & English helps people get promoted in their job.	.650
142. Young children learn to speak Spanish & English at the same time easily.	.613
143. Both English and Spanish should be important in New Mexico.	.671
145. When I become an adult, I would like to be considered a speaker of English & Spanish.	.772
146. All people in New Mexico should speak English and Spanish.	.722
147. If I have children, I would want them to speak both English & Spanish.	.805
148. Both English and Spanish can live together in New Mexico.	.712
149. People only need to know one language.	.459

4.3.6. Attitude Scales Composite Factors.

In order to see if the different attitude scales, when combined, would yield the same groupings, all attitudinal items together underwent a comprehensive factorial analysis. Upon merging all his items in this same way, Baker found three factors. All items from the Use, Value and Status of Welsh (integrative-instrumental) grouped together into their own factor, the General Attitude to Welsh items grouped into a separate factor, and, finally, the Attitudes to Bilingualism items grouped into a single factor of their own. Baker used these grouping to support his hypothesis that attitudes toward bilingualism are unique from those toward individual languages. My data did not follow this same pattern.

Using the rotated factor loadings from a Principal Factor Analysis on all 62 attitudinal items, I found a total of six factors (refer to Appendix D for distribution of the items and their loadings): (1) Positively Worded Items; (2) Use, Value and Status of Spanish; (3) Use, Value and Status of English; (4) Negatively Worded Items; (5) Spanish Death; and (6) Live in New Mexico, Sing with others. These factors reflect some of the patterns mentioned in the previous results sections. For example, although the Use, Value and Status scales for Spanish formed their own unique factor (factor 2) as did those for English (factor 3), the General attitudes towards Spanish and the Bilingualism scales converged into two factors which seem to be based, again, on whether or not the wording of the items is positive or negative. The final two factors are somewhat surprising in their make-up. They can be best characterized as follows: factor 5 contains items addressing the possible death of the Spanish language; and factor 6 contains the items from both the Spanish and English Use, Value and Status sections dealing with living in New Mexico and Singing (with others).

These results illustrate that the pupils in this study have very separate attitudes toward the use, value and status of English and the use, value and status of Spanish.

However, their general attitudes towards Spanish and attitudes towards bilingualism are not so distinct.

This additional comprehensive factor analysis supports the theory that the phrasing of the items, themselves, was influencing the students' response patterns. The subjects may be reacting out of some sort of "politically correct" agenda, i.e. all statements which are pejorative about a language are treated differently, regardless of their actual content, simply because they have negative connotations. It would be interesting to replicate this study and include a section which measured general attitudes toward English in order to see if those items would also follow the same patterns. It is also possible that, since the majority of bilinguals in Roswell are Spanish speakers, these youths view Spanish as the language of bilingualism. Nonetheless, without additional information, we can only be sure of one thing: this study indicates that these individuals do not separate their attitudes toward bilingualism and Spanish into distinct phenomena.

4.4. Correlational Analyses:

Both an analysis of variance and T-tests were conducted on this data and yielded a plethora of statistically significant relationships between the many different factors measured by the questionnaire (see Appendix E for a complete accounting of the correlations). Nevertheless I will limit my discussion here to the comparison of my findings with those of Baker and to those with the most weight.

4.4.1. General Attitudes towards Spanish.

Baker found that Age, Literary Culture and Popular Culture were all directly correlated to General Attitudes towards Welsh (refer to Figure 2.2. above). My findings do not correspond to his for either of the two factors which resulted from the General Attitudes towards Spanish scales (negative wording and positive wording). Instead I found that

Gender and Spanish proficiency correlated with both factors and, in the case of the positive wording factor, so did English proficiency, language background factors 1 and 2, and Youth Culture factor 3: Home/Family Activities (see figures 4.4.1-1 and 4.4.1-2. below).

Figure 4.4.1-1. Variables directly correlated with General Attitudes toward Spanish: Negative Wording.

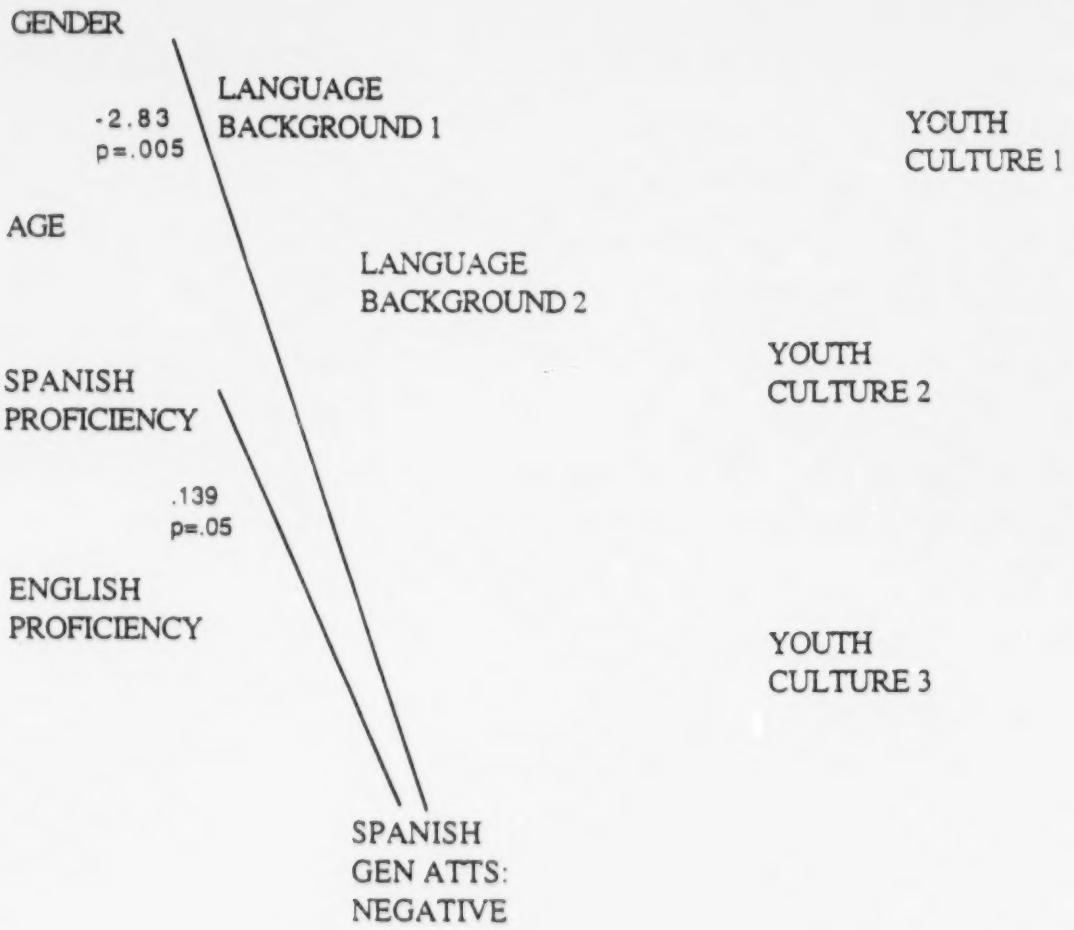
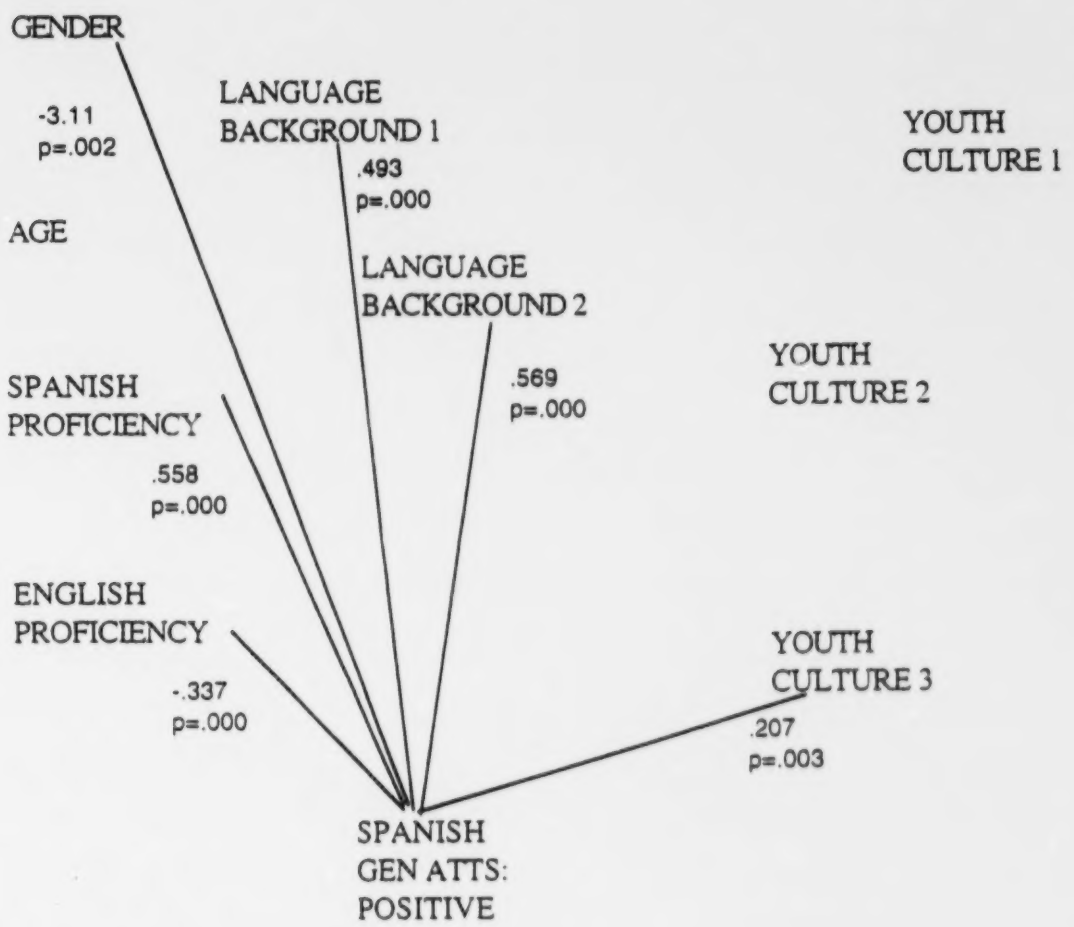


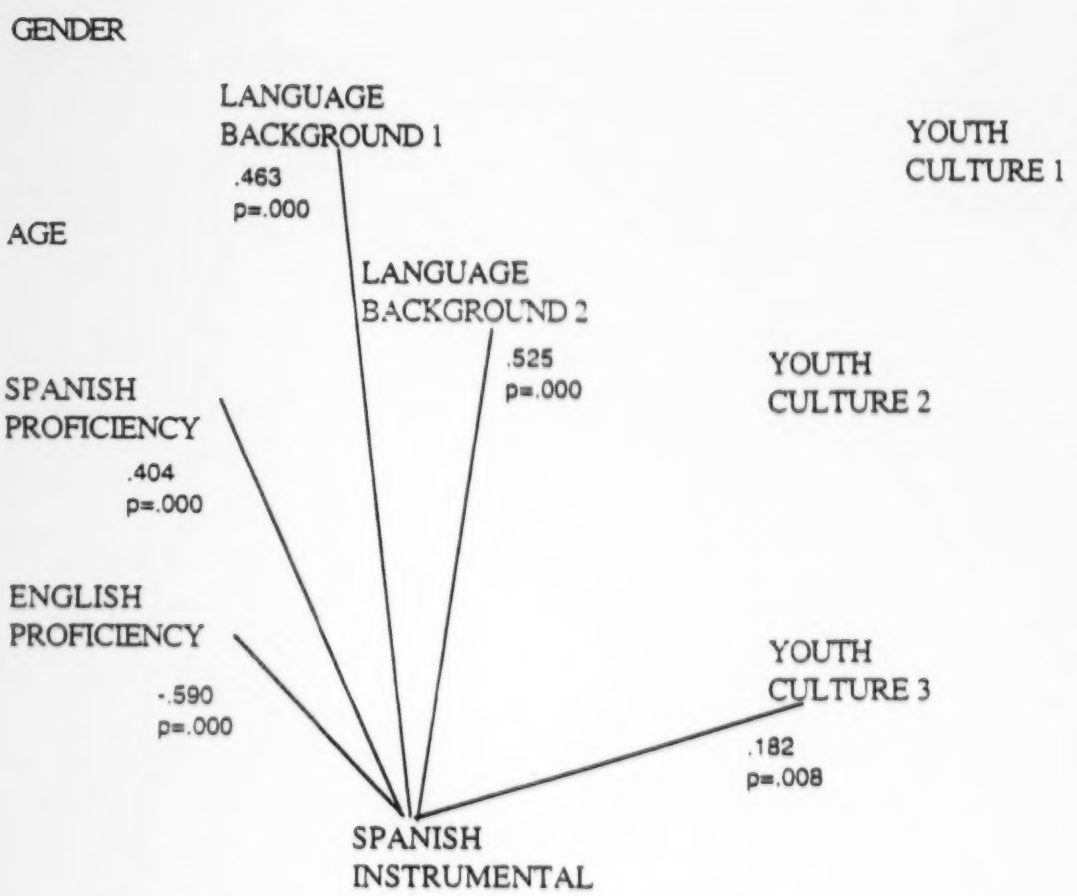
Figure 4.4.1-2. Variables directly correlated with General Attitudes toward Spanish: Positive Wording.



4.4.2. Attitudes Toward the Use, Value and Status of Spanish.

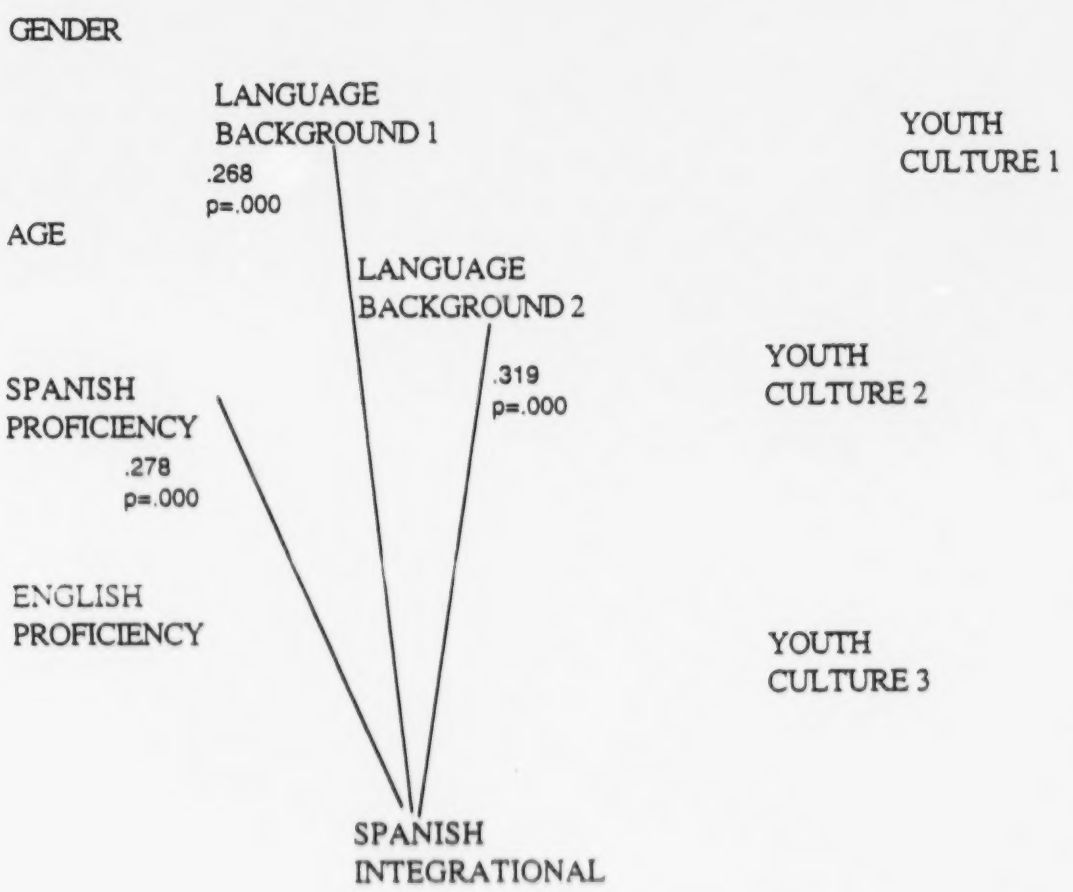
In the case of Instrumental attitudes to Welsh, only Language Background was found to be directly related by Baker (see figure 2.4. above). I also found language background (in fact both of my language background factors) to be directly related to Spanish instrumental attitudes. However, both Spanish and English proficiency as well as Youth Culture 3: Home/Family Activities (see figure 4.4.2-1. below) were also significantly related to Spanish Instrumental attitudes.

Figure 4.4.2-1. Variables directly correlated with Spanish Instrumental Attitudes



Baker found that Welsh & Literary Culture, Popular Culture, Gender and Language Background were all related to Welsh Integrational Attitudes (refer to Table 2.3 above). Although both Language Background factors were also again related to Spanish Integrational Attitudes, Spanish Proficiency was the only other variable with a significant relationship to Spanish Integrational Attitudes (see figure 4.4.2-1 below).

Figure 4.4.2-2. Variables directly correlated with Spanish Integrational Attitudes

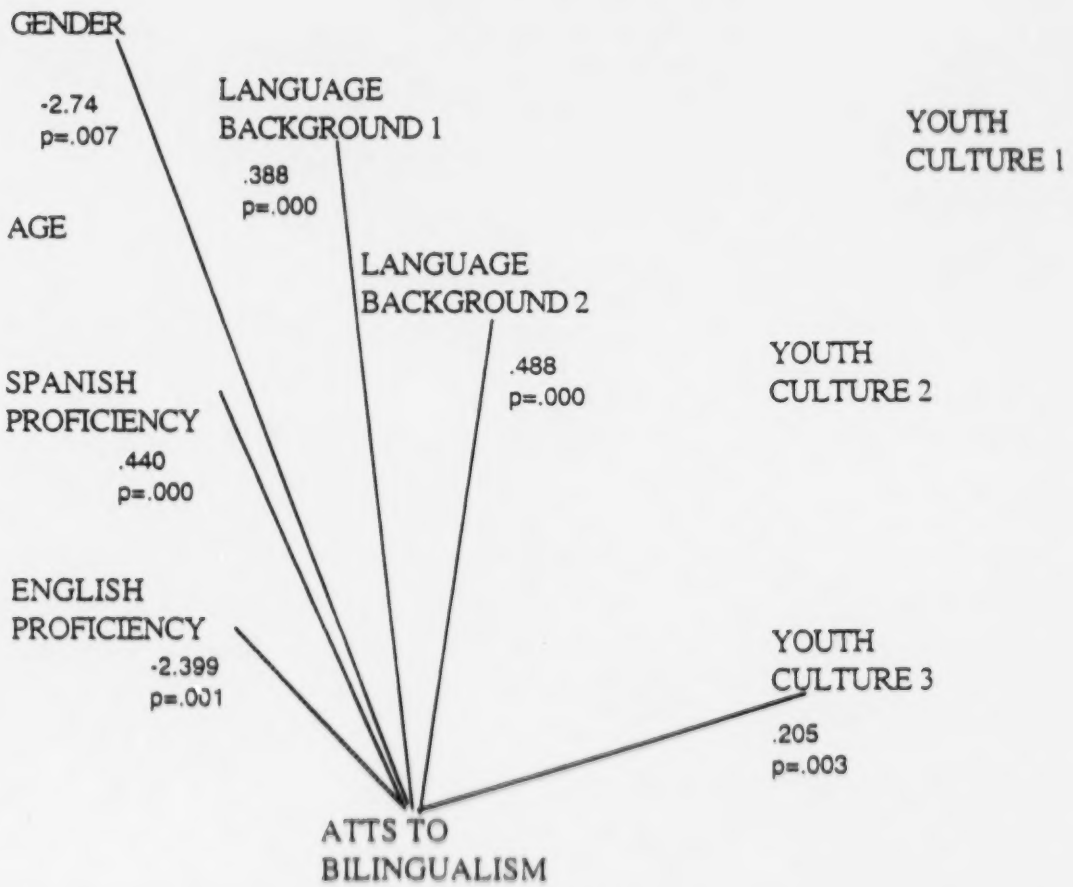


4.4.3. Attitudes to Bilingualism.

As illustrated in Figure 2.5 above, Baker found Welsh & Literary Culture, Popular Culture, Gender, Age and Language Background to all be directly related to his subjects' Attitudes to Bilingualism. Similarly my results show Gender and both Language Background factors to be related to Attitudes to Bilingualism. Nonetheless the only Youth Culture factor which related to this measure was Youth Culture 3: Home/Family Activities. In further contrast, both Spanish and English proficiency were

also significantly correlated in my sample whereas age was not (refer to Figure 4.4.3. below).

Figure 4.4.3. Variables directly correlated with Attitudes to Bilingualism



It must be mentioned here that this pattern is exactly the same as the pattern seen in the relationships with the General Attitudes towards Spanish: Positive Wording factor. As mentioned in the discussion of the factor analyses above, there is a definite parallel in these factors. In fact there was an extremely high and significant correlation between these two factors, themselves (.8083, P<.000). This further suggests that these two factors have been interpreted in the same way by the subjects and thus may really represent only one underlying construct for this population.

4.4.4. Place of Birth.

Although Baker did not need to include place of birth as a variable in his study, I did. Because my population includes many immigrants, I wanted to be able to determine if the place of birth of the subjects and/or their parents contributed to the subjects' attitudes. Indeed the highest correlations found were between birthplace (of both the subjects and the subjects' parents) and the two Language Background factors (Language Background 1: Use with Peers and for Activities and Language Background 2: Use with Church and Elders)--ranging from 24.92 to 11.02 all at P=.000. These positive relationships were understandably very high since immigrants and possibly even first generation immigrants may be assumed to have lower L2 (English) proficiency and therefore use the L1 (Spanish) in more domains. In addition to the high correlation with language background, place of birth (again for both subjects and their parents) was also positively correlated to both Use, Value and Status factors for Spanish (i.e., both instrumental and integrative), General Spanish Attitudes factor 1: Positive Wording, and the Attitudes Towards Bilingualism factor. Curiously, place of birth (both subjects' and their parents') was also moderately negatively correlated with Youth Culture 1: Social. This again reinforces the assumption mentioned previously that the Hispanic population is more home-oriented than the Anglo.

4.4.5. Summary of Correlations.

The external, contextual factors seem to much outweigh all else. Just as Baker found in his work that "attitude appears more strongly connected with the 'environmental' variables than individual attributes" (Baker 1992: 68), so my study found as well. Environmental factors such as Language Background and the geographic origin (of both the subjects and their parents) formed the strongest correlations present in the data with all attitude measures. Nevertheless proficiency in Spanish or English (an

individual difference) also has a strong correlation with Spanish Instrumental attitudes and General attitudes (positive wording) towards both Spanish and bilingualism. Proficiency in Spanish was also slightly correlated with English Instrumental Attitudes and the second General Attitudes toward Spanish (negative wording) factor. As to be expected, Language Use patterns are also highly correlated with all measures of place of origin. Interestingly, Proficiency measures are also highly correlated with Language Background 2, the factor which included peers and all social activities.

Where Spanish proficiency positively correlates with all attitude measures, English proficiency is negatively correlated with Spanish General Attitudes (positive), Attitudes toward Bilingualism and Integrational Spanish Attitudes. In this way students' proficiency and language attitudes appear to be intimately linked. The next most important factors appears to be both Language Background factors, which are strongly related to all but Spanish General attitudes (negative wording). Although directionality cannot be assumed from these correlational analyses, some factors surely have preceded others in time, place of birth and gender, for example. Directionality between attitudes and proficiency or language use (which forms part of what has been titled language background herein), on the other hand, is not in any way clear. In this way we have learned of existing relationships and, in a future paper, I will examine the actual probability of directionality via the use of LISREL modeling techniques.

4.5. Cluster Analysis.

In order to attempt to extract any characteristics which the subjects shared with each other, a cluster analysis was performed[10]. This analysis compares the subjects' responses to all the variables and groups those with the most similar patterns of responses. This analysis revealed that there were three distinct groups within my

[10]The K-Means Clustering of Cases from the program BMDP 7.0 was utilized for this analysis.

sample population. These three groups had significant differences in their mean scores for all of the variables and factors (at $p<.0001$ for all except Youth Culture 3 which was $p<.05$) except for gender, which was not significantly different between any of the groups. The factor which provided the largest difference between the groups was Language Background 1: Peer/Activity. In this way the three groups separated Spanish Dominant, English Dominant and bilingual speakers into their own groups in much the same was as Baker's.

Group one is mostly from Mexico and unique in its overwhelming use of Spanish in both peer/activity situations as well as with elders/church. In general, they are older and also have more positive attitudes towards Spanish and bilingualism than the other two groups. They do not often participate in any Literary/Sports activities but do tend to do home/family activities.

Group two is U.S. born and dominant in English in all domains. These subjects do not think Spanish is important instrumentally or integratively, but, remarkably, also do not find English to be very important on either of these counts. Their general attitudes towards Spanish are slightly negative although they are neutral towards bilingualism. They are more likely to engage in literary/sports or social activities than group 1 and less likely to spend time at home or with family.

TABLE 4.5. Cluster Mean Scores.

	F-RATIO	CLUSTER 1	CLUSTER 2	CLUSTER 3
CLUSTER SIZE		62	50	101
LANGUAGE BACKG 1: PEER/ACTIVITY	304.42	2.383	4.865	4.431
BIRTHPLACE	243.05	1.787	1.000	1.010
LANGUAGE BACKG 2: CHURCH/ELDERS	163.91	1.474	4.632	3.481
SPANISH INSTRUMENTAL	106.96	1.629	3.442	2.011
GEN SPANISH ATTS 1: POSITIVE WORD	88.08	2.233	3.604	2.584
ENGLISH PROFICIENCY	72.06	3.172	1.540	1.596
ATTITUDES TOWARD BILINGUALISM	65.21	1.959	3.057	2.139
SPANISH INTEGRATIVE	63.827	2.474	3.642	2.372

SPANISH PROFICIENCY	54.95	1.966	4.300	2.929
ENGLISH INSTRUMENTAL	22.22	1.636	2.424	1.674
AGE	20.16	15.069	14.833	13.436
YOUTH CULTURE 1: SOCIAL	19.16	3.003	2.496	2.308
ENGLISH INTEGRATIVE	13.19	2.228	2.563	1.892
GEN SPANISH ATTS 2: NEGATIVE WORD	11.31	2.133	2.510	1.889
YOUTH CULTURE 3: HOME/FAMILY	4.08	2.113	2.545	2.349
YOUTH CULTURE 2: LITERARY/SPORTS	3.64	3.383	3.157	3.090
GENDER	2.93	1.368	1.600	1.495

Group three, although predominantly from the U.S., is a fully bilingual group. Although they report using mostly English with their peers, they use both English and Spanish for church or with older family members. They fall in-between the above two groups in their activity patterns, except for in the social realm, where they seem to be more active than the other groups. This group is more positive in its view of Spanish integrativeness, English integrativeness and in the General Attitudes. The strength of their positive attitudes towards English integrativeness when compared to group 2 (English dominant), which is neutral, and group 1 (Spanish dominant), which is moderately positive, is noteworthy. On all other attitude measures this group falls in between the other groups, yet overall still has mostly positive views on all counts.

5. Conclusion.

5.1. Proposed Interpretation of Findings.

Baker's original study found that engaging in certain activities--culturally Welsh activities, in particular--promoted favorable attitudes towards Welsh. Furthermore Baker concluded that when individuals participate in such activities and find them rewarding, this may thwart the onset of a negative change in attitudes towards Welsh and consequently promote maintenance. In the current replication of this work no form of youth culture was found to be an overwhelming influence in attitude formation and

there were no relationships found with age whatsoever. Additionally, Baker's original work proposed that attitudes to bilingualism and attitudes towards particular languages are really two distinct constructs. Nevertheless, attitudes towards bilingualism were not found to be a unique construct in either this study or in Baker's.

Although this work does not support Baker's primary findings, it does offer many insights into not only the patterns of language attitudes and use of this community, but also directions for future studies in this field. The Language Use and Background data are interesting in and of themselves. Both the frequencies and the factor analysis depict a picture of very separate use of Spanish and English. Spanish is relegated to use in church and with elders while English occupies all other domains. This pattern is present in spite of predominantly positive attitudes towards Spanish and bilingualism. I have offered two possible explanations for this herein: (1) either the population is in the process of shifting to English or (2) Spanish has been restricted to a more private domain.

Past research (discussed in the section on motivation above) has suggested that strong instrumental attitudes towards an L1 would encourage maintenance. The bilinguals and Spanish speakers in this community have generally positive Spanish instrumental attitudes yet seem to prefer English in public domains (where Spanish might be of instrumental value). It is important to highlight that instrumental attitudes alone are not enough to predict L1 maintenance in this population. This indicates that a theory of language attitudes needs to address the issue of what constitutes conative attitudes, i.e. under what conditions do attitudes have a direct behavioral impact? Indeed, one possible explanation of why people with positive attitudes towards a language would shift might be found outside the realm of linguistic or even attitudinal phenomena. For example, Max K. Adler addresses the question of shift by stating, "There is no answer to this question. But one fact is certain: when a language becomes obsolete the reason is never a linguistic one" (cited in Langan 1991: 48). In

her work Langan suggests that the answer may lie either in the link between language and culture (1991: 57) or in the power and/or prestige differential found between the two languages and/or cultures in contact (Langan 1991: 49).

An investigator who has addressed the link between language, cultural identity and shift phenomena in the Hispanic community in the United States is Zentella. She suggests that, "Indudablemente, para la mayoría de los hispanos el ser hispano necesariamente implica el tener que saber el español" (1990: 154-5). However, Zentella cites 1980 figures from The Language Policy Task Force which indicate that with shift to English this link between culture and language is being broken: "en algunas de nuestras comunidades ya hay pruebas contundentes que la mayoría sí acepta una identidad cultural hispana *sin* [sic] el español" (Zentella 1990: 155). Zentella takes this discussion even further by suggesting that the deciding factor is socio-economic pressure encouraging shift: "Si la única alternativa que tiene un pueblo para darle de comer a sus hijos es la de abandonar el idioma que se les ha convencido es un estorbo para su progreso--pero a la vez rehusan entregar su identidad--se entiende por qué optan por una identidad hispana sin el requisito del idioma" (Zentella 1990: 155). Similarly, the Mexican immigrant population in New Mexico has many economic incentives to switch to English. Even though these data show that most young people do not have negative attitudes toward Spanish nor toward bilingualism, their variety of Spanish is non-standard and therefore does not bring any concrete economic incentives for maintenance. On the other hand, there are many socio-economic benefits in learning English.

The perceived prestige of language varieties, the link between language and culture, and whether speakers view a language as a means of access to resources/services, e.g. education, jobs, etc. all need to be considered in order for sociolinguists to understand the phenomena of language maintenance and shift. However, first we must find a way to distinguish between the three components of

attitudes: (1) the cognitive which consists of thoughts and beliefs, (2) the affective which is the equivalent of feelings or emotions; and (3) the conative or readiness for action (Baker 1992: 12-13). Hence even the strongest positive attitudes may only be cognitive in nature and not conative, i.e. they will not promote action such as maintenance.

Most importantly, linguists must consider what communities want for themselves in order to be able to fulfill their obligation to the communities and to be able to act as advocates on their behalf. Through attitudinal research, sociolinguists can find out what a community views as beneficial and desirable for their own future and, in this way, avoid imposing their own views thus empowering communities to participate in the decisions about their own futures. It appears, however, that information about language attitudes and patterns of language use are only two variables out of a much more complex mix of causes which must combine to determine the linguistic choices of an individual or a community.

5.2. Future Directions.

After having presented these findings, a few areas have been found to be lacking in the actual instrument. Consistent with Baker's findings, the Youth Culture scales (even with the addition of more items) fail to yield a reliable factor. It is clear that this section of the questionnaire needs to be re-worked so that it might be an effective measure of this construct. One other change that I would suggest for this questionnaire is that more items be added which ask subjects to report on language use for "inner and personal or expressive functions" ('Aipolo & Holmes 1990: 511) in order to better understand the patterns of private language use. This may also increase the reliability of the integrative factors--remember that the Spanish Integrative factor was below the acceptable level of reliability. It is clear from these data that although language use in social contexts is related to youth culture, private domains are also influential.

Another area which is lacking in this questionnaire is a measure of subjects' perceived link between self-identification and language. 'Aipolo & Holmes state that in the case of New Zealand,

> ...the attitude of the minority group to the ethnic language is a crucial factor in accounting for the rate of shift to English. Where language is considered a core cultural value, i.e. it is regarded as crucial to the speakers' cultural identity people are more likely to maintain it, despite the pressures of the majority (1990: 514-5).

It is possible that attitudes about the role of language in self-identification may be more important than the speakers' attitudes towards a language in and of itself (cf. Giles & Johnson 1987).

An area of future focus for this research and other attitudinal studies as well should be to compare the particulars of the socio-economic factors of the Welsh and the Hispanic New Mexican contexts. In this way differences in the data which are not due to questionnaire or methodological inadequacies might be encountered. For example, the Hispanic population in New Mexico may not be perceived of as the same race and/or color as the Anglo population. Does this have any impact on the importance of the instrumentality of Spanish? It can be conceived that pronounced physical differences might override any need for a linguistic-based identity and in turn a linguistic distinction between these groups. Another major difference between my sample and Baker's is the immigrant background of many of my subjects. How might this affect their language attitudes or maintenance?

By replicating Baker's original study, this work has suggested some improvements on the original questionnaire as well as attempted to refine Gardener's socio-educational model of language attitudes so that it might be applicable to a broader range of populations. By so doing, more questions have been raised than answered. It is the sincere hope of this author that the answers to the original, as well as the new questions will be pursued in the not so distant future. In this way, the

sincere desire to preserve the linguistic and cultural diversity and rights of minority communities might be further served.

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APPENDICES

APPENDIX A: PART 1: BAKER'S QUESTIONNAIRE WITH MODIFICATIONS.

PART ONE

Listed below are some of the things people of your age do when they are not in school. Please answer whether **you** do the following things:

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A. VERY OFTEN	B. FAIRLY OFTEN	C. SOMETIMES	D. RARELY	E. NEVER
1. Go to a youth club					
2. Go to church					
3. Play sports					
4. Watch TV/Videos					
5. Read newspapers					
6. Read books outside of school					
7. Read magazines/comics					
8. Go dancing					
9. Part-time work					
10. Play cassettes/CDs					
11. Visit relatives					
12. A hobby					
13. Spend time with boys my age					
14. Spend time with girls my age					
15. Go shopping					
16. Walking					
17. Go to the library					
18. Do nothing much					
19. Play a musical instrument					
20. Help at home					
21. Homework					
22. Play computer games					
23. Go to the movies					
24. Eat out with my family					
25. Spend time at home with my family					
26. Go out with my family					
27. Play with family pets					
28. Go on vacation with my family					

PART TWO

Here are some questions about the language in which you talk to different people, and the language in which certain people speak to you. Please answer as honestly as possible. There are no right or wrong answers. Leave blank any question which does not apply to you.

In which language do YOU speak to the following people?

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A.ALWAYS IN SPANISH	B. IN SPANISH MORE OFTEN THAN ENGLISH	C. IN SPANISH & ENGLISH EQUALLY	D. IN ENGLISH MORE OFTEN THAN SPANISH	E.ALWAYS IN ENGLISH
29. Father					
30. Mother					
31. Brothers/Sisters					
32. Friends in class					
33. Friends outside of school					
34. Teachers					
35. Friends on the playground					
36. Neighbors (near my house)					
37. Grandparents					
38. Other relatives					
39. Family pets					

In which language do the following people speak to you?

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A.ALWAYS IN SPANISH	B. IN SPANISH MORE OFTEN THAN ENGLISH	C. IN SPANISH & ENGLISH EQUALLY	D. IN ENGLISH MORE OFTEN THAN SPANISH	E.ALWAYS IN ENGLISH
40. Father					
41. Mother					
42.Brothers/Sisters					
43. Friends in school					
44. Friends outside of school					
45. Teacher					
46. Friends on the playground					
47. Neighbors (near my house)					
48. Grandparents					
49. Other relatives					

Which language do YOU use when doing the following?
MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A.ALWAYS IN SPANISH	B. IN SPANISH MORE OFTEN THAN ENGLISH	C. IN SPANISH & ENGLISH EQUALLY	D. IN ENGLISH MORE OFTEN THAN SPANISH	E.ALWAYS IN ENGLISH
50. Watching TV/ Videos					
51. Going to Church					
52. Reading Newspapers/ Comics/Magazines					
53. Listening to tapes/CDs					
54. Listening to radio					
55. Shopping					
56. Playing sports					
57. On the telephone					
58. Reading books					
59. Earning money					
60. Other					
61. Playing with family pets					
62. Other leisure activities					

PART THREE

How important or unimportant do you think the Spanish language is for people to do the following? There are no right or wrong answers.

For people to:	A. IMPORTANT	B. SOMEWHAT IMPORTANT	C. SOMEWHAT UNIMPORTANT	D. UNIMPORTANT
63. Make friends				
64. Earn plenty of money				
65. Read				
66. Write				
67. Watch TV/Videos				
68. Get a job				
69. Become smarter				
70. Be liked				
71. Live in New Mexico				
72. Go to church				
73. Sing (with others)				
74. Play sports				
75. Raise children				
76. Go shopping				
77. Make phone calls				
78. Pass exams				
79. Be accepted in the community				
80. Talk to friends in school				
81. Talk to teachers in school				
82. Talk to people out of school				

How important or unimportant do you think the English language is for people to do the following? There are no right or wrong answers.

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

For people to:	A. IMPORTANT	B. SOMEWHAT IMPORTANT	C. SOMEWHAT UNIMPORTANT	D. UNIMPORTANT
83. Make friends				
84. Earn plenty of money				
85. Read				
86. Write				
87. Watch TV/Videos				
88. Get a job				
89. Become smarter				
90. Be liked				
91. Live in New Mexico				
92. Go to church				
93. Sing (with others)				
94. Play sports				
95. Raise children				
96. Go shopping				
97. Make phone calls				
98. Pass exams				
99. Be accepted in the community				
100. Talk to friends in school				
101. Talk to teachers in school				
102. Talk to people out of school				

PART FOUR

How well do YOU think YOU compare with other children your age in your school in the following areas:

103. in MATH:

A. Near the top B. Better than average C. About average D.Below average E. Near the bottom

104. in being able to speak SPANISH:

A. Near the top B. Better than average C. About average D.Below average E. Near the bottom

105. in being able to speak ENGLISH:

A. Near the top B. Better than average C. About average D.Below average E. Near the bottom

PART FIVE

Here are some statements about the Spanish language. Please say whether you **agree** or **disagree** with these statements. Please be as honest as possible. There are no right or wrong answers.

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A. STRONGLY AGREE	B. AGREE	C. NEITHER AGREE NOR DISAGREE	D. DISAGREE	E. STRONGLY DISAGREE
106. I like hearing Spanish spoken.					
107. I prefer to watch TV in English than in Spanish.					
108. Spanish should be taught to all students in New Mexico.					
109. Its a waste of time to keep the Spanish language alive.					
110. I like speaking Spanish.					
111. Spanish is a difficult language to learn.					
112. There are more useful languages than Spanish.					
113. I'm likely to use Spanish as an adult.					
114. Spanish is a language worth learning.					
115. Spanish has no place in the modern world.					
116. Spanish will disappear since everyone in New Mexico can speak English.					
117. Spanish is essential to take part fully in life in Roswell.					
118. We need to preserve the Spanish language.					
119. Children should not be made to learn Spanish.					
120. I would like Spanish to take over for English in New Mexico.					
121. It's hard to study science in Spanish.					
122. You are considered to be a lower class person if you speak Spanish.					
123.I prefer to be taught in Spanish.					
124. As an adult, I would like to marry a Spanish speaker.					
125. If I have children, I would like them to speak Spanish.					

PART SIX

Here are some statements about the English and Spanish languages. Please say whether you **agree** or **disagree** with these statements. Please be as honest as possible.

There are no right or wrong answers.

MARK ONE OF THE FOLLOWING ANSWERS ON THE ANSWER SHEET

	A. STRONGLY AGREE	B. AGREE	C. NEITHER AGREE NOR DISAGREE	D. DISAGREE	C. STRONGLY DISAGREE
126. It is important to be able to speak English and Spanish.					
127. To speak one language in New Mexico is all that is needed.					
128. Knowing Spanish and English makes people smarter.					
129. Children get confused when learning English and Spanish.					
130. Speaking both Spanish and English helps to get a good job.					
131. Being able to write in English & Spanish is important.					
132.All schools in New Mexico should teach students to speak in English & Spanish.					
133. Road signs should be in English & Spanish.					
134. Speaking 2 languages isn't difficult.					
135. Knowing both Spanish and English gives people problems.					
136. I feel sorry for people who can not speak both Spanish and English.					
137. Children in New Mexico should learn to read in both English & Spanish.					
138. People know more if they speak English and Spanish.					
139. People who speak Spanish & English can have more friends than those who speak only one language.					
140. Speaking both English & Spanish is harder for older than younger people.					
141. Speaking both Spanish & English helps people get promoted in their job.					
142.Young children learn to speak Spanish & English at the same time easily.					
143. Both English and Spanish should be important in New Mexico.					
144. I would not want English to take over Spanish.					

145. When I become an adult, I would like to be considered a speaker of English & Spanish.					
146. All people in New Mexico should speak English and Spanish.					
147. If I have children, I would want them to speak both English & Spanish.					
148. Both English and Spanish can live together in New Mexico.					
149. People only need to know one language.					

APPENDIX A: PART 2: SPANISH VERSION OF QUESTIONNAIRE.

PRIMERA PARTE

Esta es una lista de cosas que algunas personas de tu edad hacen cuando no están en la escuela. Por favor señale con que frequencia haces tú estas cosas:

CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

	A. SIEMPRE	B. CON FREQUENCIA	C. A VECES	D. CASI NUNCA	E. NUNCA
1. Ir a algún club para jovenes					
2. Asistir a la iglesia					
3. Hacer deporte					
4. Mirar TV/Videos					
5. Leer periódicos					
6. Leer libros fuera de la escuela					
7. Leer revistas/cuentos					
8. Bailar					
9. Trabajar					
10. Escuchar discos, cassettes o discos compactos					
11. Visitar a tus parientes					
12. Algún hobby					
13. Pasar tiempo con chicos de tu edad					
14. Pasar tiempo con chicas de mi misma edad					
15. Ir de compras					
16. Pasear					
17. Ir a la biblioteca					
18. No hacer mucho					
19. Tocar un instrumento musical					
20. Ayudar en casa					
21. Hacer tarea					
22. Jugar juegos electrónicos					
23. Ir al cine					
24. Comer en restaurantes con mi familia					
25. Pasar tiempo en casa con mi familia					
26. Salir con mi familia					
27. Jugar con la mascota de la familia					
28. Ir de vacaciones con mi familia					

SEGUNDA PARTE

Estas son algunas preguntas sobre el idioma en el que tú les hablas a diferentes personas, y el idioma en que ciertas personas te hablan a ti. Por favor conteste lo más honestamente posible. No hay respuestas correctas ni incorrectas. No contestes preguntas que no tengan que ver contigo.

¿En cuál idioma les hablas tú a las siguientes personas?

CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

	A. SIEMPRE EN ESPAÑOL	B. EN ESPAÑOL MAS QUE EN INGLES	C. EN ESPAÑOL E INGLES IGUAL	D. EN INGLES MAS QUE EN ESPAÑOL	E. SIEMPRE EN INGLES
29. Padre					
30. Madre					
31. Hermanos					
32. Amigos en clase					
33. Amigos fuera de la escuela					
34. Maestros					
35. Amigos en el parque					
36. Vecinos					
37. Abuelos					
38. Otros parientes					
39. La mascota de la familia					

¿En cuál idioma te hablan las siguientes personas?
CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

	A. SIEMPRE EN ESPAÑOL	B. EN ESPAÑOL MAS QUE EN INGLES	C. EN ESPAÑOL E INGLES IGUAL	D. EN INGLES MAS QUE EN ESPAÑOL	E. SIEMPRE EN INGLES
40. Padre					
41. Madre					
42. Hermanos					
43. Amigos en clase					
44. Amigos afuera de la escuela					
45. Maestros					
46. Amigos en el parque					
47. Vecinos					
48. Abuelos					
49. Otros parientes					

Cuál idioma usas tú cuando haces lo siguiente? CONTESTA EN LA HOJA DE RESPUESTAS

	A. SIEMPRE EN ESPAÑOL	B. EN ESPAÑOL MAS QUE EN INGLES	C. EN ESPAÑOL E INGLES IGUAL	D. EN INGLES MAS QUE EN ESPAÑOL	E. SIEMPRE EN INGLES
50. Mirar TV/Videos					
51. Ir a la iglesia					
52. Leer periódicos/ cuentos/Revistas					
53. Escuchar discos, cassettes o CDs					
54. Escuchar la radio					
55. Ir de compras					
56. Hacer deportes					
57. Hablar por teléfono					
58. Leer libros					
59. Ganar dinero					
60. Ser socio de un club					
61. Jugar con la mascota de la familia					
62. Otros pasatiempos					

TERCERA PARTE

¿Qué tanta importancia tiene la lengua española para que la gente logre las siguientes cosas? No hay respuestas correctos o incorrectas. CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

El español	A. ES MUY IMPORTANTE	B. ES ALGO IMPORTANTE	C. TIENE POCA IMPORTANCIA	D. NO ES IMPORTANTE
63. Hacer amigos				
64. Ganar mucho dinero				
65. Leer				
66. Escribir				
67. Mirar TV/Videos				
68. Conseguir un trabajo				
69. Hacerse más inteligente				
70. Caerle bien a la gente				
71. Vivir en Nuevo México				
72. Ir a la iglesia				
73. Cantar (en grupo)				
74. Jugar deportes				
75. Educar a sus hijos				
76. Ir de compras				
77. Hablar por teléfono				
78. Aprobar exámenes				
79. Ser parte de la comunidad				
80. Hablar con amigos en clase				
81. Hablar con maestros en la escuela				
82. Hablar con gente fuera de la escuela				

¿Qué tanta importancia tiene la lengua inglesa para que la gente logre las siguientes cosas? No hay respuestas correctos o incorrectas.

CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

El inglés	A. ES MUY IMPORTANTE	B. ES ALGO IMPORTANTE	C. TIENE POCA IMPORTANCIA	D. NO ES IMPORTANTE
83. Hacer amigos				
84. Ganar mucho dinero				
85. Leer				
86. Escribir				
87. Mirar TV/Videos				
88. Conseguir un trabajo				
89. Hacerse más inteligente				
90. Caerle bien a la gente				
91. Vivir en Nuevo México				
92. Ir a la iglesia				
93. Cantar (en grupo)				
94. Jugar deportes				
95. Educar a sus hijos				
96. Ir de compras				
97. Hablar por teléfono				
98. Aprobar exámenes				
99. Ser parte de la comunidad				
100. Hablar con amigos en clase				
101. Hablar con maestros en la escuela				
102. Hablar con gente fuera de la escuela.				

CUARTA PARTE

Cómo crees que te compares con otros niños de tu misma edad en tu escuela en las siguientes areas: CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

103. en MATEMATICAS:

A. Mejor que la mayoría B. Mejor que el promedio C. Normal D. Peor que normal E. Peor que la mayoría

104. en tu dominio del ESPAÑOL:

A. Mejor que la mayoría B. Mejor que el promedio C. Normal D. Peor que normal E. Peor que la mayoría

105. en tu dominio del INGLÉS:

A. Mejor que la mayoría B. Mejor que el promedio C. Normal D. Peor que normal E. Peor que la mayoría

QUINTA PARTE

Estos son algunas opiniones sobre el inglés y el español. Por favor **indica si estás de acuerdo o no.** Por favor contesta lo más honestamente posible. No hay respuestas correctas ni incorrectas.

CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

	A. ESTOY MUY DE ACUERDO	B. ESTOY DE ACUERDO	C. ME DA IGUAL	D. NO ESTOY DE ACUERDO	E. NO ESTOY NADA DE ACUERDO
106. Me gusta escuchar el español hablado.					
107. Me gusta ver TV más en inglés que en el español.					
108.Deben enseñar el español a todos los estudiantes de Nuevo México.					
109. Es una pérdida de tiempo mantener el español vivo.					
110. Me gusta hablar el español.					
111. El español es un idioma difícil de aprender.					
112. Hay otros idiomas más útiles que el español.					
113. Es probable que yo use el español cuando sea adulto.					
114. El español es un idioma que vale la pena aprender.					
115. El español no tiene un papel en el mundo moderno.					
116. El español va a desaparecer porque todos en Nuevo México pueden hablar inglés.					
117. El español es esencial para paticipar de todo en la vida de Roswell.					
118. Necesitamos preservar la lengua española.					
119. No se debe hacer a los niños aprender el español.					
120. Me gustaría que el español tomara el lugar del inglés en Nuevo México.					
121. Es difícil estudiar ciencia en el español.					
122. La gente que habla el español es considerada de clase baja.					
123. Prefiero que mis clases sean en español.					
124. Prefiero casarme con un(a) hablante del español cuando sea adulto.					
125. Cuando tenga niños, prefiero que hablen el español.					

SEXTA PARTE

Estos son algunas opiniones sobre el inglés y el español. Por favor **indica si estás de acuerdo o no.** Por favor contesta lo más honestamente posible. No hay respuestas correctas ni incorrectas.

CONTESTA LAS PREGUNTAS EN LA HOJA DE RESPUESTAS

	A. ESTOY MUY DE ACUERDO	B. ESTOY DE ACUERDO	C. ME DA IGUAL	D. NO ESTOY DE ACUERDO	E. NO ESTOY NADA DE ACUERDO
126. Es importante poder hablar el español y el inglés.					
127. Hablar sólo una lengua es todo lo que uno necesita en Nuevo México.					
128. Hablar español e inglés hace más lista a la gente.					
129. Los niños se equivocan cuando aprenden el español y el inglés.					
130. Hablar los dos, el español y el inglés, ayuda a conseguir un trabajo bueno.					
131. Saber escribir en inglés y en español es importante.					
132. Todas las escuelas en Nuevo México deben enseñar a los estudiantes hablar en inglés y en español.					
133. Las señales de tráfico deben estar en inglés y en español.					
134.No es difícil hablar dos idiomas.					
135. Saber inglés y español le causa problemas a la gente.					
136. Me dan lástima los que no hablan español e inglés.					
137. Los niños en Nuevo México deben aprender a leer en inglés y en español.					
138. La gente sabe más cuando habla inglés y español.					
139. Los que hablan inglés y español pueden tener más amigos que los que hablan sólo un idioma.					
140. Habalr español y inglés es más difícil para los mayores que para los jóvenes.					
141. Hablar inglés y español ayuda a ascender en el trabajo.					
142. Los niños chicos aprenden a hablar el inglés y el español a la vez facilmente.					
143. Los dos, el inglés y el español, deben ser importantes en Nuevo México.					
144. No querría que el inglés tomara el lugar del español.					
145. Cuando yo sea adulto, me gustaría que me consideren hablante del inglés y del español.					

146. Todos en Nuevo México deben hablar el inglés y el español.					
147. Cuando yo tenga niños, quiero que hablen el inglés y el español.					
148. El inglés y el español pueden existir al mismo tiempo en Nuevo México.					
149. La gente sólo necesita hablar un idioma.					

APPENDIX B: ADDITIONAL ITEMS OF QUESTIONNAIRE

1. Where were you born? _____

2. How long have you lived in the United States? _____

3. How long have you lived in Roswell? _____

4. Where was your mother born? _____

5. Where was your father born? _____

6. What is your mother's occupation? _____

7. What is your father's occupation? _____

APPENDIX C: AGE DISTRIBUTION OF SUBJECTS

Age	Frequency	Percent	Valid Percent
10	1	.5	.5
11	11	5.1	5.2
12	22	10.1	10.4
13	51	23.5	24.2
14	42	19.4	19.9
15	28	12.9	13.3
16	26	12.0	12.0
17	19	8.8	9.0
18	8	3.7	3.8
19	2	.5	.5
20	2	.9	.9
No Response	6	2.8	

APPENDIX C: GRADE/AGE/SEX DISTRIBUTION OF SUBJECTS

Grade		Frequency	Percent	Valid Percent	Mean Age
5		25	11.5	11.6	11.52
SEX	F	11			
	M	14			
6		29	13.4	13.4	12.81
SEX	F	13			
	M	14			
7		59	27.2	27.3	13.38
SEX	F	30			
	M	24			
8		29	13.4	13.4	14.48
SEX	F	13			
	M	16			
9		41	18.9	19.0	15.72
SEX	F	18			
	M	15			
10		26	12.0	12.0	17.04
SEX	F	13			
	M	12			
11		7	3.2	3.2	17.43
SEX	F	5			
	M	2			
No Response		17			

APPENDIX D: Attitude Scales Composite Factors.

	F 1 +WORD	F 2 U,V&S SPAN	F 3 U,V&S ENGL	F 4 -WORD	F 5 SPAN DEATH	F 6: LIVE/ SING
137. Children in New Mexico should learn to read in both English & Spanish.	.809					
132. All schools in New Mexico should teach students to speak in English & Spanish.	.738					
147. If I have children, I would want them to speak both English & Spanish	.735					
131. Being able to write in English & Spanish is important.	.706					
146. All people in New Mexico should speak English and Spanish.	.699					
113. I'm likely to use Spanish as an adult.	.695					
145. When I become an adult, I would like to be considered a speaker of English & Spanish.	.665					
126. It is important to be able to speak English and Spanish.	.632					
124. As an adult, I would like to marry a Spanish speaker.	.606					
142. Young children learn to speak Spanish & English at the same time easily.	.595					
123. I prefer to be taught in Spanish.	.586					
110. I like speaking Spanish.	.574					
133. Road signs should be in English & Spanish.	.560					
108. Spanish should be taught to all students in New Mexico.	.559					
141. Speaking both Spanish & English helps people get promoted in their job.	.558					
148. Both English and Spanish can live together in New Mexico.	.555					
143. Both English and Spanish should be important in New Mexico.	.552					
114. Spanish is a language worth learning.	.551					
139. People who speak Spanish & English can have more friends than those who speak only one language.	.548					
120. I would like Spanish to take over for English in New Mexico.	.539					
138. People know more if they speak English and Spanish.	.538					

130. Speaking both Spanish and English helps to get a good job.	.519					
128. Knowing Spanish and English makes people smarter.	.447					
125. If I have children, I would like them to speak Spanish.	.444					
118. We need to preserve the Spanish language.	.494					
117. Spanish is essential to take part fully in life in Roswell.	.464					
119. Children should not be made to learn Spanish.	.468			.319		
134. Speaking 2 languages isn't difficult.	.473					
(Spa)63. Make friends		.742				
(Spa)78. Pass exams		.727				
(Spa)80. Talk to friends in school		.720				
(Spa)79. Be accepted in the community		.694				
(Spa)70. Be liked		.692				
(Spa)66. Write		.682				
(Spa)64. Earn plenty of money		.677				
(Spa)82. Talk to people out of school		.676				
(Spa)72. Go to church		.673				
(Spa)69. Become smarter		.662				
(Spa)68. Get a job		.645				
(Spa)81. Talk to teachers in school		.640				
(Spa)74. Play sports		.637				
(Spa)65. Read		.634				
(Spa)67. Watch TV/Videos		.626				
(Spa)76. Go shopping		.626				
(Spa)75. Raise children		.611				
(Spa)77. Make phone calls		.526				
(Spa)73. Sing (with others)		.407				.450
(Eng)84. Earn plenty of money			.759			
(Eng)98. Pass exams			.737			
(Eng)95. Raise children			.720			
(Eng)92. Go to church			.706			
(Eng)86. Write			.700			
(Eng)83. Make friends			.688			
(Eng)100. Talk to friends in school			.667			
(Eng)88. Get a job			.651			
(Eng)89. Become smarter			.627			
(Eng)96. Go shopping			.624			
(Eng)94. Play sports			.617			

(Eng)101. Talk to teachers in school			.614			
(Eng)90. Be liked			.613			
(Eng)85. Read			.610			
(Eng)102. Talk to people out of school			.583			
(Eng)97. Make phone calls			.576			
(Eng)99. Be accepted in the community			.538			
(Eng)91. Live in New Mexico			.402			.582
(Eng)93. Sing (with others)			.417			.543
(Eng)87. Watch TV/Videos			.456			.520
122. You are considered to be a lower class person if you speak Spanish.				.617		
135. Knowing both Spanish and English gives people problems.				.609		
127. To speak one language in New Mexico is all that is needed.	.402			.551		
129. Children get confused when learning English and Spanish.				.529		
115. Spanish has no place in the modern world.				.539	.555	
116. Spanish will disappear since everyone in New Mexico can speak English.				.489	.451	
144. I would not want English to take over Spanish.					.506	
109. Its a waste of time to keep the Spanish language alive.					.624	
(Spa)71. Live in New Mexico						.520

Appendix E. Summary of all Significant Correlations

	Youth Cult: 1	Youth Cult: 2	Youth Cult: 3	Lang. Back: 1	Lang. Back: 2	Spanish Instru	Spanish Integrat	English Instru	English Integrat	Spanish Gen = +	Spanish Gen = -	Atts Biling
T-test												
Gender			-3.96 P=.000	-2.17 P=.031						-3.11 P=.002	-2.83 P=.005	-2.74 P=.007
Where Born	-4.07 P=.000	-2.05 P=.041	2.11 P=.036	14.23 P=.000	11.02 P=.000	4.80 P=.000	3.13 P=.002			4.64 P=.000		3.76 P=.000
Where Mother Born	-3.39 P=.001			16.07 P=.000	24.92 P=.000	7.38 P=.000	4.03 P=.000	2.55 P=.012		6.93 P=.000		6.04 P=.000
Where Father Born	-3.08 .002	-2.02 P=.045		14.29 P=.000	23.46 P=.000	7.27 P=.000	4.00 P=.000			6.66 P=.000		6.14 P=.000
ANOVA												
Span Profic				.5719 P=.000	.7296 P=.000	.4041 P=.000	.2780 P=.000	.1529 P=.028		.5575 P=.000	.1389 P=.048	.4403 P=.000
Eng Profic	.2586 P=.000	.1542 P=.027		-.6403 P=.000	-.5898 P=.000	-.2847 P=.000				-.3367 P=.000		-.2399 P=.001
Age				-.248 P=.000								
Youth Cult: 1	*	.3614 P=.000		-.3156 P=.000	-.2602 P=.000							
Youth Cult: 2	#	*	.2011 P=.003	-.1425 P=.037	-.2084 P=.002				.1426 P=.040			
Youth Cult: 3	#	#	*	.1388 P=.042		.1823 P=.008				.2067 P=.003		.2050 P=.003
Lang Back:1	#	#	#	*	.8369 P=.000	.4631 P=.000	.2678 P=.000	.1535 P=.027		.4925 P=.000		.3882 P=.000
Lang Back:2	#	#	#	#	*	.5246 P=.000	.3185 P=.000	.1466 P=.035		.5686 P=.000		.4883 P=.000
SP Instru	#	#	#	#	#	*	.7521 P=.000	.4241 P=.000	.2281 P=.001	.6037 P=.000	.2138 P=.002	.5633 P=.000
SP Integ	#	#	#	#	#	#	*	.3580 P=.000	.4262 P=.000	.4416 P=.000		.3804 P=.000
Engl Instru	#	#	#	#	#	#	#	*	.8471 P=.000			.1685 P=.016
Engl Integ	#	#	#	#	#	#	#	#	*			
SP Gen: +	#	#	#	#	#	#	#	#	#	*	.4788 P=.000	.8083 P=.000
SP Gen: -	#	#	#	#	#	#	#	#	#	#	*	.5166 P=.000

* = variable cross-referenced with itself.
# = intersection of these variables already represented on the flip side of the chart.

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